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AERIAL ADVENTURES

— OF —

CARLOTTA,

— OR —

Sky-Larking in Cloudland,

BEING HAP-HAZARD ACCOUNTS OF THE

Perils and Pleasures of Aerial Navigation.

BY THE LADY AERONAUT, CARLOTTA.

PUBLISHED BY

C. E. MYERS, AERONAUTIC ENGINEER

Mohawk, N. Y.

1883.

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PREFACE.

Until one hundred years ago, (1783,) no living man or woman had visited Cloud-land,—few women, indeed, have ever penetrated that domain. It has, perhaps, never happened that any person, man or woman, has realized so fully the rapturous sensations of floating freely in space, or moving at will, as has the writer of this little book,—for the reason that throughout her aerial experience there has been a constant endeavor to guide the craft which bore her, independent of the wings of the winds whose erratic motions she has learned to make of service at the present time.

One hundred years hence, (1983,) Aerial Navigation may be as common-place a fact as the telephonic communication of to-day. Midway of these centuries, this centennial year of the original "Conquest of the Air," seems an appropriate date for the issue of the first American work recording experiences in the air which

Mary W. du Pont. Gift
1783

PREFACE.

favor the idea of the complete subjugation of this upper empire.

There is also another reason for the issue of this book, viz., a disposition on the part of its author to gratify the reasonable curiosity of a great many people who have asked her all sorts of questions,—“Hence this dictionary!”—as Webster might have said. It is not complete, but, like the aeronaut’s voyages, to be continued.

Aerial Adventures of Carlotta.

PART FIRST.

CHAPTER I.

My First Ascension—Why I came to make it, and how it resulted.

My first ascension was made alone, in the balloon "Aerial," during the "Fourth of July" celebration of 1880, at Little Falls, N. Y. How I came to make it cannot be stated so briefly, as several causes united to bring it about. Chiefly it resulted from a great want experienced by Prof. Myers in obtaining reliable information from aeronauts concerning the experiments he was conducting in the interests of meteorology and aerial navigation. Doubtless aeronauts are, as a rule, somewhat addicted to exaggeration, and it was this fact, confronted with the absolute necessity of scientific exactness, which first induced me to propose taking the place which no effort on the part of Prof. Myers sufficed to fill satisfactorily. Through full knowledge of his aims and needs, familiarity with the meteorological apparatus of which he had store, personal habits of

exactness, and an abundance of health such as comparatively few women are blessed with, I was doubtless well qualified to enter the fields of air. I had also a theoretical acquaintance with the art, derived from access to the largest collection of aeronautical literature in the country, besides a considerable practical experience in the minute details of the business and in the construction of various balloons, one of which, (at that time Prof. Myers' largest balloon,) having been in his absence wholly completed by me with the aid of one assistant. In addition, I had a craving for the luxury of a new sensation, to be experienced as I arose and floated heavenward with gently buoyant motion on the bosom of the breeze, the earth a picture, and the sky a gorgeous canopy 'round about me; or, with higher range, a brilliantly lighted curtain of silver-lined clouds, through whose parted folds I peered at the softened tints of radiantly-robed earth whose "distance lent enchantment to the view!"

But "coming events cast their shadows before," and, notwithstanding my confidence and pleasureable satisfaction, I was for a few hours impressed, I may say depressed, by the full import of the event when I contemplated the executed contract which in set terms provided for my suspension between heaven and earth for a definite period, viz: that the balloon must rise at least one mile, sail at least five miles or remain up half an hour. However, this shadow soon passed away and I became more and more anxious for the day to

arrive which should by its experience enable me to take a broader and loftier view of things hitherto seen only from a lowly and contracted stand point.

The day came, a misty, moisty, miserable, rainy "Fourth," dampening all my expectations of a delightful tour. Of the ascension, as seen from below, perhaps I can do no better than to briefly extract portions from the *Journal and Courier* newspaper report:—

THE EVER GLORIOUS FOURTH!

**Immense Celebration in Little Falls---15,000 People---
Magnificent Balloon Ascension---The Largest
Crowd Seen in Many Years, &c.**

THE BALLOON ASCENSION.

Meantime the rain came slowly but very persistently, and many feared that the balloon would not ascend. But Prof. Myers knew no such word as fail, and the work of inflation, though somewhat delayed, kept going forward. The crowd at this time on Main and Second streets, and upon all the heights and tops of buildings that commanded the scene, was simply immense. And when the identity of "Carlotta" became known, and that this was to be her first ascension, the interest was greatly intensified. At a little before five o'clock, she stepped bravely into the basket, a beautiful carrier pigeon was sent from the balloon to carry the news to her home in Mohawk that she had started upon her perilous ride, and at the same time the words, "let go," were given, and the balloon "Aerial" with its precious freight, rose slowly and very majestically above the house-tops. At first it was borne northerly, till reaching an upper current, it floated off eastward, remaining in sight until a cloud obscured it. "Carlotta" took as companions on the voyage four carrier

pigeons which she was to let off with news to her Mohawk friends of her flight and of her safe arrival upon earth. No finer ascension has ever been witnessed in this section, and the prayers of all ascended with the bold lady who made this her first venture in the clouds, and who did it so beautifully and so successfully.

THE BALLOON LANDS NEAR DEVEREAUX.

The first news received here from the balloon was brought by the lady herself, who reached this village about ten o'clock in the evening. She reports a most magnificent voyage, the balloon speeding very swiftly but very gently along until at fifteen minutes past five o'clock, after a ride of about thirty-five minutes, in which she traveled nearly twenty miles, she safely landed in a large field on the farm of Mr. John Davis in the town of Stratford near the village of Devereaux. All along the route she was seen by the people of the country, many of whom shouted to her and waved their handkerchiefs. As she came near the earth the people on the farm rushed to her assistance, and she had no difficulty in effecting a safe landing. She then packed up her balloon and secured a son of Mr. Davis to bring her to Little Falls. She returned to Mohawk on the excursion train which left here about half-past ten o'clock. Doubtless the memory of this, her first voyage, will never pass from her mind, and all who saw the ascension will unite with us in warmly congratulating her upon her success and safety.

My first impression as I arose was "what a sea of faces!" and this impression gradually faded as the immense crowd became one mass of unrecognizable, surging, human billows.

Everything grew smaller and smaller, as if treated with some patent process for making dolls and play-

houses out of full grown men and women and the largest edifices, while the ground sunk under me and the horizon widened and expanded till I seemed just over the center of a gigantic bowl, which as I sailed along ever built up new sides from the bottom of the seeming concavity which continually remained just under me. As I drifted along in perfect peace this gigantic specimen of natural crockery—literally “earthenware”—changed its hues from brick-red walls, white houses and somber roofs, to the emerald green of the fields and forests, which later, in autumn, would stud the earth with variegated colors as a mosaic of red, yellow and green leaves garnished the surface. Seeing our planet thus for the first time one must unavoidably be impressed with the idea that the earth is a *picture*, painted for beauty only and not for baser uses!

Between earth and balloon coursed and circled the homing Antwerp carrier pigeons previously released, seeking their bearings or the land-marks which would guide them homeward. Their associates, secured in the netting basket hanging from the concentrating ring of the balloon, craned their necks, fluttered and struggled uneasily with the idea of being so high without the privilege of flight.

Now the balloon slowly changed its course, swinging eastward as it arose. Soon the mists and vapors of the valley began to veil objects from sight, and at a little over a mile in height obscurity prevailed respecting things earthly, and the balloon penetrated one cloud

after another, each one of which had no "silver lining," but looked like an almost solid milk-white mist that chilled like the grasp of an icy hand, and shut out the view completely, so that the rigging of the balloon faded from sight and the basket seemed to be supported by some invisible power, making me feel as if floating on the air itself.

The pigeons, ceasing their struggles, sat helplessly quiet, as if abandoning hope, and, to tell the honest truth, it was the *lonest* place that I was ever in—no earth, no sky, no balloon in sight to inspire one with the conscious faith in its sustaining power; only the helpless pigeons as companions, a watch to tell of passing time, and a barometer whose needle-like pointer steadily circled past the figures on its dial indicating the upward passage, while the thin thread of quicksilver in the minute thermometer attachment as steadily fell, telling the needless tale that it was growing colder. A mariner's compass was also aboard, the apparent revolutions of whose needle told me of the continual spinning of the balloon, of whose revolutions otherwise I should have been unconscious,—the whole balloon, basket, dial and myself slowly turning around, while the needle alone stood still, steadily pointing toward the magnetic north. Thus science, appealing to the intellect alone, informed me of my movements. Otherwise I had no sensation or knowledge of motion.

At a little over two miles elevation a cloud still enclosed me as within solid walls, yet more icy cold and

penetrating than all before, and when I emerged from this, downward, by a pull upon the valve cord, and saw the earth again, I had flown some ten miles in about five minutes, all the previous motion having been very slow indeed—this fast aerial train having been the upper eastern current always existing at a height of about two miles.

No familiar scene was at hand when the earth appeared, and only after landing did I learn my whereabouts. As I neared the earth I began to seek a safe landing place, and so checked the balloon at the height of a few hundred feet by sprinkling out sand ballast. When the proper place appeared approaching me I let out gas and dropped, but a land breeze caught me and whirled me swiftly towards a piece of woods, to avoid which I again threw out ballast, jumped over it, and a steady pull of the valve cord brought me into comparatively safe harbor with the woods between me and the wind, the anchor rope trailing slowly through a tall growth of brakes, which gradually retarded motion like a train of cars stopping, till the basket dragged on the ground. As I approached a gaunt and leafless poplar, which threatened damage, I pulled down the netting on one side away from it, and, coming to a full stop, a young man ran to my assistance with glowing red face, and torrents of perspiration streaming from it. After getting most of the gas out, other men joined us, and under my instruction assisted me to discharge gas, take off the netting and roll up the

balloon for transportation to a house a mile or two away, over a road so filled with rocks and rubbish as to be in very marked contrast to the aerial route I had pursued. Shortly after this I dispatched the two remaining pigeons homeward, with a message around each leg, worded as follows: "Landed at 5:30 o'clock at Stratford, Fulton County, fifteen miles from Little Falls, on the farm of John Davis." The pigeons arrived home in due time, but owing to absence of the telegraph operator at Mohawk no message was forwarded to Little Falls. The first lot of four pigeons released at starting arrived home in twelve minutes. Two others, sent fifteen minutes later, also arrived in twelve minutes. The flight of the last two pigeons with messages were not timed.

So far as I can learn this was the first instance where Homing Antwerps were flown with messages giving notice of the situation of an aeronaut. Had such accompanied the ill-fated Donaldson on his last voyage, or the veteran Wise whose later loss occurred, we should likely have known more of their sad fate, or perchance might have rescued them.

Mr. Davis' people cordially entertained me on arrival at their house. As a woman's age is always an interesting subject, the family amused themselves with guessing at mine as we stood upon the porch after supper, waiting for young Mr. William Davis to convey me to Little Falls. Mr. John Davis suggested that I was "most too young a girl to be trusted so far from

home." I laughingly asked him how old he thought I was, and he earnestly insisted on 16 or 17. I told him his wife knew better than that, and she guessed 22 or 23, while young Mr. Davis insisted that no one less than 25 could handle the balloon as I did, and thereupon I left them to work it out by the "rule of three." When Mr. Davis first saw the balloon he thought it a little one and chased to capture it for himself, and was somewhat astonished at its size when overtaken.

Thus ended my first ascension. It left me both eager and dissatisfied. Dissatisfied at the inclement weather which had prevented a full realization of my hopes, and eager to renew my aerial flight under more propitious circumstances,—which soon presented themselves.

CHAPTER II.

My Second Ascension—A delightful flight—Peculiarities of Homing Pigeons.

My next ascension was made from the fair grounds at Sherburne, N. Y., with the balloon Aerial, at four o'clock on the afternoon of Thursday, Aug. 25, 1880. The day proved calm and beautiful, and advantage was taken of the quiet state of the atmosphere to make several photographs of the balloon and gas-generators. Although there was no fair in progress at the time there was a large crowd in attendance, and, as a neighboring city paper stated, "It was like a fair."

After adjusting ballast so as to make the ascent very slow, Prof. Myers released the almost passive balloon and it floated from his open hands and arose so gently that at first I was scarcely conscious of any movement, and so nearly balanced in the air was it that my slightest motion moved it up or down and it seemed wholly subject to my will, as I could move it about by a gesture with the hand. I have never been so delightfully impressed with the pleasures of floating freely in space as on this occasion, except perhaps, during those exquisite moments of dream-life when I have sometimes been wafted like a disembodied spirit floating onward through an eternity of sleep which seemed brief enough

when I awoke. Now I had a practical realization of this during waking moments.

To the spectators, accustomed to see balloons pop up and out of sight, the novelty of this leisurely coquetting with the air made it one of the most interesting spectacles possible to imagine, and many ladies present each expressed the wish that she might be permitted to make an aerial voyage seemingly fraught with so little peril and so evidently gratifying to every pleasurable sense of motion.

Still floating idly over the fair grounds, the balloon gradually arose to a height of 500 feet, when I released four homing pigeons which flew in a gradually ascending spiral course till suddenly they swept away homeward and were soon out of sight. The loss of their weight, four pounds, destroyed the equilibrium of the balloon, and it shot more rapidly upward and slowly began moving northward till at a mile and a half elevation it nearly poised itself for a long time and then as slowly returned southward toward the place of ascent. Scarcely a cloud dimmed the clear blue of the sky; the air was deliciously pure and just cool enough, while distant objects for miles around revealed themselves with almost magical distinctness. The view was so entrancingly beautiful,—the colors glowing bright and warm in the August sunshine, with every distant object clearly cut as a miniature cameo—that without being lonesome I longed for companionship to share such excess of earth's treasures, wasted if unseen, and costing nothing to enjoy.

A sojourn, I can hardly call it a journey, of an hour gradually returned me within a mile or two of the fair grounds. I could easily have landed within them by continuing my course, but from inexperience in gratifying the desires of spectators, and a fear that the report of my coming down where I went up might imply an unsuccessful ascension, I chose a spot in the roadway and descended without a jar, almost in front of the carriage waiting to convey me and the balloon.

Thus ended my second ascension, as gratifying and encouraging in every way as my first ascension was dismal and depressing.

The four pigeons released after starting reached Mohawk (distant about forty miles, air line) in one hour and forty minutes. Of the pair released on landing, the male arrived about sundown, having been delayed somewhere by a thunder storm and coming in wet through. The hen, his mate, from some unaccountable reason, did not reach home till Saturday morning, and was then quite fatigued and famished, though perfectly familiar with the route and having a nest of eggs at home. She was considered the best bird I had, and I concluded that she had been chased by a hawk, or demoralized by hunters, as on several occasions my birds in training came in with gun shot wounds. It is painful to think that these little messengers have to run the gauntlet of wanton sportsmen. Their use unquestionably lessens the risk popularly believed to be connected with ballooning, and it is with this object that

the novelty has been introduced by me, the public interest in them being a secondary matter, though largely manifested. They may be readily distinguished from doves on the wing from their swifter and more business-like flight or race-horse style. Seen near at hand their bodies appear more slender, their wings longer and apparently set on like shoulders instead of forming a symmetrical surface with the body. Their eyes are bright and hawk-like, and surrounded by a light-colored excrescence, which also appears upon the beak where it joins the forehead. My own birds have the print of a balloon and my address in red upon one feather of each wing, and often a metal bracelet on one leg stamped with a number denoting pedigree, for each pigeon has notable ancestors and is derived from stock imported at prices which seem ridiculously high to any but pigeon fanciers. As much may sometime depend on the recovery of the truly courageous creatures—which often fly hundreds of miles in the effort to get home—any one finding such can confer no greater favor than to forward it C. O. D. if alive, or mail the marks and report the circumstances if dead.

CHAPTER III.

My third ascension—A perilous flight and alighting—"Any port in a storm"—A "tip top" landing up a tree!—"All's well that ends well!"

This ascension, made during the Fair at Norwich, N. Y., Thursday, September 9, 1880, was in strong contrast to the previous one. As the hour appointed for the ascension approached, the wind began to blow in strong gusts, and I was anxious to get safely afloat on the open aerial sea before the arrival of a storm which might wreck my craft while leaving port.

During a calmer interval the balloon arose steadily, while I stood erect in the basket with open knife ready to cut ballast loose if necessary. As the blast again struck it the top inclined and the whole balloon was then forced to "tack" downward, just as the inclined sails of a vessel push it one way or another, only the sails can be inclined to tack either way, while a balloon always inclines to be blown down at starting; so that although the balloon had at first risen rapidly, it now became necessary to cut loose two twenty pound bags of sand to counteract this downward action of the wind, when the "Aerial" righted with a quick swing and sped upward, while I waved my flag in response to shouts below.

When a thousand feet high I released four carrier pigeons, which made a wide circle before turning homeward. A moment later I rushed into a dense cloud and saw no more of earth or balloon, while the cords sustaining the basket and even the basket itself became invisible to me, the rapidly moving index of the barometer, (held near my face to see it,) and the downward rush of moist air being the only proofs of my swift rising.

After a few minutes in this blank solitude I became anxious about the safety of the balloon, which during this unchecked upward flight must be rapidly expanding and in need of attention; for although it was arranged to avoid bursting through expansion, I was still liable to be suffocated with a flood of gas from its mouth when the balloon became over-full. While I hesitated a faint odor of gas decided me, and I pulled the valve cord while I noted the barometer, which still marked an undiminished speed upward. Several pulls on the valve were necessary before the barometer indicated any check in the speed, indeed I began to think that the instrument acted like a watch, whose springs and wheels turn the hands only forward.

Finally, at diminished speed, the basket was dragged upward into a clearer atmosphere, and the balloon again became visible, as I arose above the snow-white mountains of cloud-land. Sailing above and occasionally through these topmost peaks was chilly sport, which soon ended in my attempting to "slide down

hill," by letting out gas. The downward plunge renewed all the discomforts of my ascent, but the speed of falling was controlled by sprinkling out sand according to hints the barometer gave. I was much longer coming down than going up, and I was just beginning to think the world had somehow got loose and lost itself, when, through an opening in the mist, the earth suddenly jumped up at me, and I found myself swiftly driving at a few feet elevation over a woods several miles in extent. Not wishing to alight here I threw over everything dispensable, ballast, ulster, waterproof, rubbers, and lastly the two carrier pigeons kept for final messengers; but a gust of rain rendered the balloon too heavy to rise, and it bounded rapidly across the tree-tops, with "a hop, skip, and a jump;" the basket collecting leaves, twigs and acorns at every plunge, till an immense bass wood tree, looming high above the forest, threatened to wreck craft, crew and cargo. I cast anchor immediately, the grapnel dragging till its straining rope just allowed two wide-spread branches of the basswood to catch the netting of the balloon, when it remained firmly held, between the cable on one side and the tree top on the other, without injury. The air ship was at anchor, in sight of land,—but there was no little boat to go on shore!

By and by a hunter came shouting through the woods, attracted by my calls, and looking everywhere except high enough. He laughed at my situation and asked me why I hadn't found a taller tree to land in.

His companions, a man and a boy, soon joined him. They "didn't see how I could be got down." It was twenty feet from the balloon to the trunk of the tree, eighty feet to the ground, and two and a-half miles to the nearest house, and I began to think the basket might have to be my hammock for the night which was approaching, but I resolved to escape before if possible.

I inquired for the best climber in the neighborhood, and sent after an axe, saw and ropes. When the climber came he said it was impossible to climb the tree, as "it was thirty feet to the first limb, and two men could not reach around the trunk." I said it *must* be done, and sent for a long ladder, meanwhile employing other men in cutting down six smaller trees below the balloon, so that it might be safely lowered.

After hard work the climber mounted from the ladder up to the limbs which held the balloon, and drew up his ropes and saw.

When it was found that I purposed sawing off these two limbs they all said it could not be done, as they were very large and would come down on me and kill me. I said I had a plan to prevent that and would take all the risk if they would obey orders.

Then I directed the climber to throw me one end of a rope, which I tied to the ring over the basket, and had him haul up and tie to a limb above, thus relieving the strain on the balloon and branches, besides holding the basket level, which all this while had re-

mained tipped on its side, with its bottom perpendicular. Next I had the climber tie a rope to one of the two limbs which he was to saw, and pass the rope across other limbs a little lower down and farther away from the balloon, letting the free end of the rope to the ground. The other limb was similarly arranged; then I divided the men into two sets and had them hold the two ropes, standing apart quite a distance from the tree and balloon, on each side. Then the climber began to saw off one limb, and when nearly sawed the men below strained on that rope, and when it was sawed off the man above and those below managed to land it nicely across a limb below, over which the rope had been passed, so it was well supported; then we served the second limb the same way. Then the climber lowered the basket and balloon down a little ways, and next one limb, and then the other, by turns, as the men let out the ropes, till the whole came down, and I found myself on the ground after hanging up there nearly two hours. We were all much fatigued, and glad to shake hands together, as we felt quite like old friends. The men said they never knew a woman could engineer a job so well before, but I guess that may be because they never before caught one "up a tree!"

CHAPTER IV.

The Fair season of 1880—Busy times—Flying to and fro like a shuttle—A “surprise” balloon ascension.

It is the purpose of this little work to offer only such narratives of ascensions as may be of interest to the reader through novelty or variety of incident, consequently much matter of possible value is omitted because the rapidity and precision of the ascensions made under Mr. Myers' management during the busy fall fair season of 1880 at the rate of two or three per week leave in my mind an impression which seems only *monotonously commonplace*, though each ascension proved of apparently very great interest to the large crowds of people which invariably attended.

As was the case during several seasons previous to my becoming an aeronaut proper, my time was in a degree devoted to purchase or shipment of supplies or apparatus to various points in different States of the Union, or in Canada, and occasionally in superintending the setting up and charging with materials the gas generating apparatus which was in turn to be used for a coming ascension, so that altogether, I was fully occupied. In this way rapid flights were made, from New York to Michigan, thence to Ohio and Indiana,

back to Massachusetts, then to Connecticut, again to New York, thence to Canada, and so on, hence it can readily be seen that I had little time for the convenient reception of interesting "impressions" or any coherent recollection of them for narration. Of all the printed reports of the season in my scrap book I copy one only as affording "novelty or variety," and entitled a "Surprise" Balloon Ascension :

A surprisingly novel incident occurred yesterday afternoon just previous to the balloon ascension of the "Aerial Princess Carlotta."

While the immense crowd expectantly awaited the lady aeronaut's appearance, an old lady hobbled to the front, wearing an old-fashioned frilled hood and a cloak of the real "Old Mother Hubbard" pattern, and supported on one hand by a cane and on the other by a crutch composed of a dilapidated old broom. Seizing a bystander, she cried excitedly, "Say! young man! Where is the balloon? Where is the balloon?"

"Why, there it is, right before you," was his reply.

"Young man! Are you trying to deceive an old woman?" she cried, suspiciously; straining her spectacled eyes in every direction except the right one.

Next she broke through the enclosing circle and hobbled up to Prof. Carl Myers, the aeronautic engineer who has charge of Carlotta's ascensions, "Young man! Where is the balloon?"

The professor looked at her an instant, like some puzzled naturalist inspecting a newly discovered specimen of crazy bug, and then, slightly wheeling the old lady around to face the distended gas-bag, said, "There!"

"Now you wouldn't deceive an old woman with weak eyes! Is that really the balloon?"

"Yes, that is really the balloon."

"Well," said she, nervously excited, "I've got to go up in it; I've got business up there!"—flourishing her broom upwards at the clouds,—“I've got to sweep the cobwebs down from the skies!”

The listening crowd shouted, while the professor smiled commiseratingly at the poor old creature's insane idea, but shook his head in dissent.

"Young man, I've to go! I guess you will lend me this balloon—or sell it maybe,—How much for it?"

"Humph! five hundred dollars," said the professor, with the air of one playing a bluff game.

"That's a bargain!" said the old witch quickly; and in another minute she had exhumed from some cavernous pocket a roll of greenbacks and forced them into the professor's hands before he had recovered from his apparent surprise. In an instant more she had grasped the concentrating ring of the balloon and was standing unsteadily on the edge of the basket. The professor caught her by the arm and tried to force her to leave her position, but she clung closely to the ring above her and retained her footing on the basket. Next, apparently to frighten her, he let the balloon and basket rise up a few feet from the ground; but the old lady seemed to like the situation and cried, "Higher! Higher!" till some thirty feet elevation was reached, when she dropped her old broom and made an effort as if to jump after it, amid cries of alarm from below. Then, in an instant, the big bonnet and spectacles came off, the cloak fell, and "CARLOTTA" stood revealed, her symmetrically beautiful figure clad in a handsome costume, and her face beaming with youth and intelligence, as she swayed lightly with the balloon and saluted the crowd below,—the lady aeronaut being completely visible through the hammock netting sides of the basket, and apparently as much at her ease on the frail support of the thin platform beneath her as if courting due admiration on the lecture platform.

Then, as the thoroughly surprised assemblage fairly took in the situation, with a realizing sense that they also had been "taken in" by the fascinating aeronaut, such a shout and babel arose as was probably never before heard at any balloon ascension, as the daring young lady arose heavenward and drifted away on the breeze, her figure diminishing in size till all outlines were lost and the balloon Aerial seemed only a yellow bubble on the aerial ocean.

CHAPTER V.

Beginning of the Ballooning season of 1881—Fourth of July ascensions at Hamilton, N. Y., and Utica, N. Y.—General depression caused by President Garfield's assassination—An erratic voyage by air, rail and race-horse.

My first ascension was referred to as occurring on the occasion of the Fourth of July celebration at Little Falls, 1880. It really took place July 5th, as the Fourth fell on Sunday, which gave Prof. Myers opportunity to operate two "Fourth of July ascensions;" one at Binghamton, N. Y., Saturday, July 3, with street gas from coal, and that at Little Falls, Monday, July 5th, with hydrogen generated from water.

In 1881 the Fourth of July committee of the city of Utica having been greatly pleased with an ascension operated by Prof. Myers, July 4, 1878, made an early engagement for another at their approaching celebration, whereby they disappointed a host of later applicants. Hamilton was one of these. Grinnell, Iowa, (since made lamentably notable by the terrible cyclone which devastated it,) having been disappointed three successive years in securing Prof. Myers' services, telegraphed too late offering \$450 for an ascension there July 4, which offer could not be accepted on account of the previous engagement with Utica. The

Hamilton committee, however, would not take "No!" for an answer, so, finally, Prof. Myers yielded to their importunities, provided that the Utica committee should consent to his operating the Hamilton ascension just previous to their own, to which the Utica people accommodately agreed.

On the third of July occurred the assassination of President Garfield, the heart-sickening news of which robbed me of courage for a time, as well as discouraged prospects of any ascensions. Various telegrams were received from localities where Prof. Myers controlled ascensions by other aeronauts that each celebration would be postponed or abandoned should the President's wounds prove immediately fatal. The celebrations at Hamilton and Utica were, however, carried out, as were those in many other places, under a state of suppressed excitement and anxious depression, whose influence extended over the whole country for many weary months and prostrated business of all kinds among a previously hopeful and prosperous people. This influence upon the balloon business was evinced by the fact that only three contracts were made in the United States by Prof. Myers after the Fourth, all the other ascensions throughout the season, which was a fairly busy one, having been contracted previously with him, while the ascensions by other operators in America were "like angel's visits, few and far between."

The weather for the ascension at Hamilton, occur-

ring at one o'clock, proved clear but windy ; while at the same time it was rainy and thunder stormy in Utica. The location selected in Hamilton especially to please "heavy investors" in the subscription funds, proved unfavorably draughty, as, being a central point or "hub" toward which, like spokes in a wheel, the streets converged, the winds blowing through two of the streets converged and crossed each other so that the balloon was impinged by two blasts, making it difficult to hold while filling and impossible to properly balance with ballast for rising, as one could not tell whether gas or wind were lifting it. It proved to have too much sand, and as it arose it was caught by a wind blast, careened, buffeted back again, knocked down, blown up again, and finally, like the Irishman's gun, "shot around a corner" into another street, whirling like a whipped top. Instantly upon appreciating the condition I began throwing out ballast, helter-skelter, bag and baggage, beginning with sand and ending with cloak, rubbers and other personal effects. The crowd would have caught and held the bouncing balloon in their excitement, but I warned them off, while the storm of sand and other impedimenta pouring like chaff from a mill, made my warnings seem more real than any harm likely to befall me, so that after a few seconds activity on my part the Aerial swung spinning into the upper air like a rebounding rubber ball, and, caught by the winds above, flew rapidly southeastward and was soon out of sight from the town. To assist

my quick return, Mr. A. B. Rice, the energetic landlord of the Rice House, who had started in advance over my proposed route, now followed speedily with a fast horse and reached me not many minutes after I came down on the farm of a Mr. Foster. As my balloon descended and hastened across this farm I overtook a picturesque and rambling rail fence which appeared in an irregular and lurching style to be going my way, and the balloon and I got aboard of this "broad guage," and for some distance we rode the rails with great energy, till we both so tired with jolting up and down over the ties that the balloon finally yielded to my solicitations to get off and walk. The more aspiring hydrogen, however, decided to imitate Tenneson's brook and "flow on forever" as it escaped upward through numerous rents. The straggling rail fence, too, continued its very reprehensible course, and for aught I know is still meandering unsteadily from side to side like an inebriated tramp. When I got time to think of it I realized that I had been in bad company. The balloon looked sorry. We bundled it up ingloriously without the usual formality of removing its net, thrust it hurriedly into a wagon and sped swiftly back to town. From the way that particular horse flew I am satisfied that nothing so completely suits the driver of a fast nag as to have real genuine occasion for being in a hurry!

Thirty miles of rail connected Hamilton with Utica where the "Flying Cloud" was filling with coal gas ad-

ministered by the courtesy of that remarkably efficient Superintendent of the City Gas Works, Mr. Fish. The 2 P. M. train from Hamilton arrived in Utica at 3:40, and thirty minutes later, in the perfect quiet and clear weather which followed the thunder storm, the Flying Cloud made its twentieth voyage and its second from Utica, amid a crowd reported by the papers as "perfectly overwhelming, Baggs' Square, and the adjoining streets and roofs being literally black with people." The balloon landed safely and easily thirty minutes later at Cedarville, ten miles away.

CHAPTER VI.

Ascensions at the Minneapolis Fair—A balloon carnival inaugurated by the Aerial and crowned by the famous voyage of the Great Northeast.

The most notable aeronautical event of the year 1881 in America was the series of ascensions noticed in every prominent paper throughout the land as about to occur at Minneapolis, Minn., during the Fair week commencing Monday, September 5, where Prof. Myers was to operate ascensions daily with one or more small balloons, except on Wednesday, September 7, when Prof. King was advertised to sail with a large balloon carrying representatives of several prominent newspapers, en-route for the Atlantic coast. The preparations for the sailing of the Great Northwest were not completed by Prof. King in time for sailing Wednesday, so on that day Prof. Myers again sent up the Aerial. On Thursday it was the Aerial again that ascended. From the *Pioneer Press* I copy the abbreviated extracts below :

“Thirty thousand people were uniting in a jubilee in honor of the exposition, and the very air was full of joy and enthusiasm. We say 30,000 because good judges estimated yesterday’s attendance at those figures. Meanwhile the grand stand, capable of seating 30,000

people (at 50 cents each,) filled up splendidly, the estimate being 18,000 for the afternoon. * * *

The interest in the balloon ascension in the afternoon was heightened by the fact that the daring aeronaut was a lady. Prof. Myers' balloon, the Aerial, which made its sixty-first ascension on Wednesday afternoon, was again inflated, and sailed gracefully away over the heads of thousands of admiring spectators.

The process of inflation began at about 2 p. m., and was carefully watched by a large concourse of people, the ascension being made at 5:15. The aeronaut is a rather petite and exceedingly pretty and interesting blonde, and one of the most fearless and enthusiastic of aeronauts. She has made innumerable ascensions during the last few years. She stepped into the tiny basket yesterday afternoon, with as little apparent concern as if she were taking a seat in a Pullman car.

"LET GO,"

she cheerily shouted, and up went the fragile aerial, over the heads of the shouting throng. The air ship soared away up among the clouds, until it was apparently about the size of your nobby straw hat, and almost enveloped in heavenly mists; then it gradually moved off toward the *Pioneer Press* office at St. Paul and began its descent. It came down quite rapidly, and fifteen minutes after its departure from the exposition grounds sunk out of sight behind the tree tops in the distance. It was as pretty and successful an ascension as is often witnessed, and was the chief attraction of the day.

BEAUTY IN A BALLOON

had a varied experience in the brief sail through the unsubstantial air yesterday afternoon, but withal a very agreeable one.

She related it to our reporter last evening. She reached the hotel at 8:45, somewhat fatigued, she said,

but bearing no traces of it on her bright fresh face. After changing apparel and refreshing herself with supper she accorded our reporter an interview and related her experience in the novel vehicle that bore her so swiftly and so high. After receiving congratulations on her safe return, she said :

Oh, I had a novel experience to-day ! a ride in a balloon, another on a locomotive, another on a gravel train, then on a passenger train, and ended up with an omnibus ride. When I started, you know, the balloon went up almost straight for a long distance ; then it floated off toward St. Paul for awhile, but kept going higher, when it encountered a current that turned considerably. This was just in the edge of a cloud which it went through, and soon I was above it, and looking down upon a white misty vapor in great masses that hid the earth entirely. They seemed to be traveling very fast and in the same direction that I was going. I didn't want to stay up there, so I let out some of the gas and came down below them, and what a lot of lakes I saw. When Mr. Rulison told me about so many I thought he was joking, but he wasn't. I looked about me for a good place to land, and seeing some railroad men at work, I made for a nice looking field near by, and came down in a stubble field that was about six inches deep with water. I came down without a jar, but it wasn't nice at all, and I got awfully wet trying to wade out of it.

Did any one come to your assistance ?

Oh, yes. Mr. J. M. Mitchell, foreman of the construction train on the Manitoba Short line, came up on an engine, and was very kind. He and his men helped me to pack the balloon, and then assisted me to get on the engine which brought me home.

How high did you go ?

About a mile and three quarters.

What was the temperature ?

Only a little cooler than it was on the fair grounds. Don't you feel any fear when making balloon ascensions?

Oh, not at all. I feel just as safe as I do here in this rocking chair.

THE HEROINE OF YESTERDAY

will to-day make her ascension with the balloon Flying Cloud. Two balloon ascensions will be made. Prof. Rulison, who is perhaps the most daring and intrepid aeronaut in the world, will make an ascent with the Aerial, and at a dizzy height will give a trapeze performance—we may say a “flying trapeze performance” of the most blood curdling nature. He is not under contract to fall a mile or two and break his neck, though he is liable to do so, but you needn't look at him unless you want to. Parties occupying seats on the uncovered portions of the amphitheatre can raise their parasols, in case he falls in their vicinity. * *

Prof. Myers' party go next to Redwood, Jefferson county, N. Y., to attend their fair and sail among the clouds for the delectation of that rural community. They are a very agreeable, unassuming party, and what they have done here has been well and satisfactorily done. Prof. Myers is one of the most expert and successful scientists in the balloon business, as well as a genial gentleman.”

The ascent of the Great Northwest balloon did not indeed occur till the Monday following the Fair week. Then, with everything favoring, weather indications “north to northwest winds, rising barometer and fair weather,” it “arose majestically,” to height of half a mile, with Prof. King, five newspaper reporters, an officer of the signal service, and 4,000 pounds of ballast, besides every other necessary requisite. It floated duly

on its course Atlanticward for six miles, when Prof. King pulled the valve cord and the balloon descended in a pasture where without another attempt at flight it remained day after day, slowly withering away before the blasts of newspaper and other abuse flung at it by a public exasperated at the apparently inexcusable and inexplicable abandonment of a voyage so widely heralded and so propitiously begun.

Nobody seems to have guessed the cause of failure. Flouting newspapers said it was "want of sand," and as a cause of not rising again suggested to their fellow reporters that "sin was awful heavy!" My own feminine guess is that the voyagers were pining for ladies' society. I feel perfectly confident that had a lady aeronaut been in charge of the balloon it would have sailed serenely onward, and I benevolently offer the suggestion for future occasions. Don't forget it gentlemen when you hold your next aerial picnic!

Seriously, nothing would please me better than a trans-continental balloon voyage *from some point on the Pacific coast* eastward toward the Atlantic; and when opportunity serves I shall make the attempt, and feel perfectly certain that I can safely cross the barrier of the Rocky mountains, and make a longer journey eastward than ever yet performed.

CHAPTER VII.

Long rides by rail to make brief balloon voyages—Floating o'er a field of fire!

The Aerial's last flight just previous to the Minneapolis voyages had occurred in Oswego county, N. Y., September first. Before the Great Northwest balloon had risen the Aerial was again nearly a thousand miles eastward, preparatory to an ascension in the adjoining county of Jefferson, the little town of Redwood, N. Y., greeting it there for the third time. I extract portions of the various reports of this ascension appearing in the current newspapers:

From Watertown Daily Times.

The attendance on the day announced for the balloon ascension was immense, to see the races and witness an attempt at ballooning in the wind. About noon a message was sent to persons from Jewett's neighborhood that sparks from a locomotive had started a field fire that threatened destruction to every combustible thing in its course.

The wind, blowing strong from the southeast, indicated that an attempt to inflate the balloon in an open field would be abortive, but Prof. Myers determined to have the ascension completed if possible. A fence sixteen feet high was erected to the windward for a shield, and at about 2 P. M. the inflation began. The music stand had to be removed in order to give the Aerial a fair send-off. During the inflation the lady aeronaut

coolly and minutely inspected every seam of the balloon cloth, occasionally pasting a suspected weak point, and, notwithstanding that both the professor and herself considered this the most hazardous ascension that they had ever engaged in, she, with a steady, composed manner, stepped into her basket, and with a breeze twenty-five miles per hour, she cleared the fence to the northwest, and, with an upward, onward flight, soon vanished from our sight.

Prof. Myers felt much anxiety during the evening with regard to the balloon and its fair charge, until 9 o'clock, when he received a telegram from her, saying that she effected a landing in the woods back of Brockville, Canada. * * * * *

From Brockville Recorder.

Redwood, a small town in St. Lawrence county, N. Y., was the scene of a great gathering on Thursday; on the occasion of her annual fair. One of the principal attractions billed was a balloon ascension by a lady aeronaut, and the country people for miles around had gathered for the purpose of seeing the daring girl ascend. Owing to the prevalence of numerous bush fires in the vicinity, the air was heavily laden with dense smoke and by many it was thought that the ascension would not take place. This theory, however, was dispelled about 5 o'clock by the appearance of the fearless aeronaut, dressed in a neat fitting suit of blue trimmed with white, and seemingly utterly careless of the perilous journey she was about to make. At exactly fifteen minutes after 5 o'clock, amid the hushed silence of the thousands present, she stepped gaily into the air ship and at the word of her manager, Prof. Myers, the ropes were loosened and she sailed rapidly into the air. She was not long in disappearing from sight, and with anxious thoughts as to where she would land, how she would land and whether or not she would ever be again seen alive, the people dispersed

and wended their way to their homes. This ended the subject of the ascension in so far as the Redwood people were concerned, but it did not by any means end the adventures of the fair balloonist. She was destined to pay Canada a visit, and this morning while "doing" the town for locals, our reporter learned that she had landed a short distance west of our town during the night. He accordingly secured a conveyance, and after driving out about three miles on the river road, came to the residence of Mr. Isaac Paul, where it was understood the descent had been made.

Going to the farm house it was found deserted; and rightly conjecturing that the inmates were assisting to secure the balloon, we sallied out in search of them. Walking rapidly along the dusty road leading past the house, we soon encountered a farmer and a lady emerging from a swamp on the left, and at once accosted them as to the whereabouts of the balloonist said to have alighted in the vicinity. At this juncture the lady suddenly pushed an old straw hat from off her forehead and laughingly replied that she was the person we were in search of. We had taken her for a farmer's wife or daughter, and could not be exactly blamed for the mistake, as in addition to the old straw hat, she had on a morning wrapper, which had evidently seen active service about the farm and was open at the bosom and throat, a pair of slippers encased in rubbers, and—well, that's about all. She at once apologized for appearing in such a garb, but explained that even for that she was indebted to the kindness of Mrs. Paul, as her own garments had been sadly wrecked in descending.

Going to the farm house near at hand, we were treated to a description of the trip she had made. After leaving Redwood at 5:15 she at once rose to an altitude of about two and a-half miles, and striking a slow current of air, drifted in a westerly direction. She can

tell nothing of the trip after this, as she had not the slightest idea of where she was going, the earth being completely hidden by the dense smoke. Fully an hour was consumed in this drifting, she knew not whither, when she became conscious that the balloon was sinking. Some of the ballast was thrown out but did not materially affect the balloon which still kept descending. It was then allowed to drop rapidly in the hope that a favorable spot for alighting had been reached. Nearing the earth, however, she soon discovered that her hopes were futile, as she was directly over the center of a dense swamp. Hurriedly throwing out the remaining ballast, she breathlessly awaited the rising, but here again she was doomed to disappointment. The descent was not arrested, and now seeing that she must make the best of a bad bargain, she threw out the grappling hooks and awaited further developments. They soon came in the shape of a crashing and rushing noise which at once told its own tale. The hooks were dragging the tops of the trees. In a few moments they fastened securely and the balloon came to a stop with a jerk. Then the real peril of the journey commenced. She scarcely knew how she reached terra firma, but reach it she did, and, tying the balloon to a tree, started for the clearing. Working her way out of the swamp, she reached the road and came across Mr. Paul's wife. This good lady at once took her mysterious visitor for a tramp, but when the situation was finally explained, she did everything in her power to offer assistance. A messenger was despatched here to telegraph to Redwood, her safe descent, and it then being dark she was taken in and cared for. On Friday the spot was visited and the balloon cut down. It was lodged near the top of a good sized pine tree, fully twenty-five feet from the ground, and must have taxed the lady's climbing abilities pretty well to get out and away from it.

The balloon used is named the "Aerial," and is very nicely constructed. Its capacity is 6,000 cubic feet. The aeronaut is a young lady, about 22 or 23 years of age, of splendid form and complexion, and with a handsome, kindly looking face. She is well educated and refined, and seemingly indifferent to the fearful risk she encounters in following the avocation of a balloonist. She says her experience last night is about the worst she has ever had. The place where she descended is only about three-quarters of a mile from the river, which at that point is fully one and a-half miles in width. Had the descent been made in the water her death would likely have been the result.

It is wonderful how many dangers a balloonist may survive by simply keeping out of them; and, in this case, although both fire and water offered seductive invitations for an early death, these were escaped by merely passing them by. The period was that of the terrible forest fires in Michigan. The whole country was as dry as tinder, and the railroads far and near throughout the land were bordered by broad bands of coal black turf, with here and there a flaming fence or field. Where were forests on fire below the balloon could be seen dense clouds of smoke pierced here and there by tongues of flame rising like lofty spires of the fire worshipers, while in sundry places the clouds themselves seem to burn. A hydrogen gas balloon over such a region is as dangerous as a portable powder magazine, and its only protection consists in keeping out of reach.

I consider that the greatest dangers which aeronauts

encounter are often brought about by inability to see the route below them when obscured by mist, smoke or darkness after nightfall. The smoke prevailed to such an extent at this time as to greatly interfere with boat navigation on the St. Lawrence river, steamers omitting their daily trips through the labyrinth of islands, not daring to risk being blown by the strong wind amidst perils concealed by the smoke. Over all these perils glided the Aerial, escaping dangers which water navigators dared not encounter, and only discommoded because a ladder was not carried with it for convenience in landing from a tree top!

CHAPTER VIII.

The Fair season of 1881—Quick trips—How hydrogen gas is made—and lost—Close of my second season.

From Canada to Connecticut; then to N. Y.; thence to Massachusetts; back again to N. Y., and so on, like an aeronautic shuttle; and almost as little variation or novelty in the flights as the weaver's shuttle experiences. Incidents of ordinary travel were plenty, often funny ones, the narration of which at home to an apparently entertained circle of friends almost induces me to drop this record of ascensions and begin the pleasant story of "A Summer Balloon Tour," which I hope some time to write.

• These quick trips were only rendered possible by the extreme lightness of the apparatus used and its little bulk—the balloons weighing fifty to sixty pounds—two of them being usually carried packed in one common trunk, together with a collapsable basket which just nestled snugly under the lid. The gas generators were quite numerous and widely distributed; all of exactly the same pattern; economical and rapid in action; each one capable of furnishing one thousand or more feet of gas per hour, four being grouped together for one operation.

HOW THE GAS IS MADE.

From the British Whig.

"A description of your process of gas making would interest the public," observed a by-stander to Prof. Myers. "These appliances are regarded very curiously."

"Well, you see I have four casks and a tub. These casks are first charged with water and several hundred pounds of iron filings. When this is done I turn on the acid. The solution instantly springs to boiling heat. The acid attacks the iron, the oxygen of the water unites with it and there is a formation of sulphate and oxide of iron. The hydrogen then set free, at the temperature of boiling water, passes through pipes into the tub of iced lime water in which the gas gives up its heat and impurities, consisting mainly of sulphur and carbon which unite with the lime, forming sulphate and carbonate of lime—both insoluble compounds which precipitate. The hydrogen in a nearly pure state then passes through the hose into the balloon. A thousand feet of it will raise seventy pounds; an equal quantity of coal gas will only lift thirty-five pounds usually." That is the plain practice of it. Now, if you want exact theory—the atoms of protoxide of hydrogen attack the exposed surfaces of iron with which they combine as a coating of protoxide of iron with which the atoms or molecules of sulphur immediately unite, eight atoms of oxygen recombining for every atom of hydrogen eliminated, the result of continued action being a saturated solution of sulphate of protoxide of iron and free hydrogen—"

"Ah! yes! exactly! oh dear me!" said the incautious listener, falling back unconscious, with an eruption of applied science in his medulla oblongata. It is safe to say that he did not recover in time for the ascension.

The professor beamed a beneficent smile of seductive invitation to the rest of the crowd to "come on!" but

although they well knew that he was simply "giving it away," they were a bashful lot, not hungry just then, and they patiently waited to have it passed around cold. * * * * *

The new-balloon "Carlotta" made the last ascension of the season, at New Milford, Conn. It was slightly larger than the Aerial, but, through superior construction, was of lighter weight. It had to be filled twice at New Milford, the first attempt at an ascension being frustrated by some one ignorantly hanging on to the valve cord while holding the balloon down just previous to releasing it for its flight. Thus with the aeronaut aboard and everything ready, the balloon suddenly shrunk to almost half its former plump dimensions as the hydrogen rushed out its large open valve, completely destroying any prospects of an ascension that day. By next morning, however, Prof. Myers had provided new charges of water, iron and acid, and in the afternoon the balloon was completely refilled and made a beautiful ascension, the first ever witnessed at New Milford, and especially gratifying to the spectators, as noted in the *Gazette and Ray* quoted below :

"The balloon ascension was the great attraction for the week. It was a grand sight from the grounds and as the fair occupant of the car soared heavenward there was intense enthusiasm. Those who have seen scores of ascensions say they never saw a more perfect one. The balloon ascended as easily and gently as could be desired, took an easterly course and was eagerly watched as long as it was in sight. It could be seen distinctly for nearly half an hour, at last appearing like a

golden ball hardly as large as an apple. It must have remained up an hour and a half, and taking a somewhat zigzag course it finally landed about a mile and a-half south of Lichfield, in an open meadow without damage. Carlotta sent a dispatch to this place as soon after landing as she could."

"It was announced by telephone that the lady who made the balloon ascension from the fair grounds was on her way to New Milford and as soon as the fact became known torches were secured, and a large number of people, headed by the band, met her at the east end of Elm street and escorted her to the New England House, where a large crowd had assembled, and for an hour or two there was a very enjoyable time. The fair aeronaut thanked the gentlemen for their attention and expressed herself as being much pleased with the courtesies which had been extended to her. Music was furnished by the band and cheers were given for the lady, at the conclusion of the proceedings, and the crowd dispersed."

It may be noted in connection with the loss of gas on this occasion that I have at times experienced so much difficulty in preventing the valve cords being prematurely pulled that I have thought sometimes that excited spectators are almost overpowered by an involuntary impulse to save the aeronaut from the dangers of an ascension.

CHAPTER IX.

Aeronautical Science—Experiments with navigable balloons—
The “Flying Dutchman,” Aerial Velocipede and Gas Kite.

And now I have occasion to refer again to the reason originally given for my venturing into the aeronautic field upon the occasion of my first ascension at Little Falls. Although it had meanwhile been an important part of my aerial “business” to make experiments and note results, it was no part of the plan to attract attention to them at an early stage, whereby expectation might be excited or curiosity stimulated without being gratified; so all experiments were conducted as privately as practicable—the upper air affording all the seclusion possible to even the most secretive experimenter within a locked work-shop.

Usually the interested spectators about a balloon are so little conversant with the details of necessary apparatus that anything of actual novelty is not especially noticeable, so that even flying machine apparatus not conspicuously labeled as such would receive

little attention, or be considered quite the regular thing.

The most effective apparatus that I ever carried aboard the balloon was jocosely termed the "Flying Dutchman," chiefly on account of its odd shape, and partly because it often committed the absurdity of sailing against the wind, like its name-sake the famous Phantom Ship, and "scudded under bare poles; or disappeared at the sight of a "landsman;" for its use was long concealed—it being always carried aboard the balloon surreptitiously, packed up like an ordinary fishing rod composed of five bamboo sticks together with a universal joint the size of a fishing reel, the whole so suggestive of fishing tackle that I have more than once been asked by observant jokers if I "expected to catch any fish up there!"

My success in "navigating a balloon" by one means or another had been such during the past two seasons that it was no longer possible to progress and still keep the matter from the public, various accounts of experiments already beginning to crop out through the newspapers so that I was able to accumulate a prodigious number of "scraps" from papers copying them in turn as interesting matter, all of which I was glad to get, as I welcomed any aeronautical addition to my scrap book. One of the first extended accounts, appearing originally in the *Utica Daily Observer*, and widely copied, I reproduce in condensed form as follows:—

AN AERIAL VELOCIPEDE.

THE NOVEL INVENTION OF A CITIZEN OF MOHAWK.

Not the Frenzy of a Flying-Machine Fanatic, but the Result of Years of Experience in Aeronautic Engineering and of a Series of Interesting Practical Experiments Made by Professor Carl Myers—Description of the Invention and Theory of its Operation.

This latest novelty among "flying machines" has its abode—its aerie, so to speak, at Mohawk, N. Y., where its inventor, Prof. Carl Myers, the well-known aeronautic engineer, resides. As previously noticed in the *Observer*, "it is composed of a balloon kite, and double geared velocipede, with a screw propellor whose wings are fifteen feet across and weigh only three pounds. The apparatus is arranged on scientific and mechanical principles, embodying the latest discoveries in the mysteries of flight, and is calculated to display the muscular powers of man to the best advantage."

Other newspapers report tests made with it in an unfinished state, indicating a lifting power of "dead weight" to the extent of thirty-nine pounds, when actuated by "one-man power," and a traction strain of fifty-one pounds to urge it through the air; its buoyancy being assisted in actual practice by a small balloon of peculiar construction. It is reserved for the present article to furnish the first complete description of the aerial velocipede which has yet appeared.

Prof. Myers' facilities for making practical investigations in this field are undoubtedly superior, and in a quiet way he seems to have made the best use of them and avoided attention as much as possible—this privacy being due to the fact that he is a practical operator in aeronautics—while flying machine inventors seem always to be visionary beings with no knowl-

edge of the practical difficulties, and Mr. Myers was disinclined to acquire the reputation of a flying machine fanatic while experimenting in the field so widely open to him.

When it is remembered how fragile a balloon is—one as big as a house weighing no more than sixty pounds—it will be realized that a considerable amount of skill is required to preserve it from destruction under all circumstances, and the skill of Prof. Myers and his aeronauts will be appreciated when it is mentioned that during the entire time he has been operating no personal injuries have been sustained and none of his balloons destroyed or lost, all being in use each succeeding season as formerly. One of them, the "Aerial," has made sixty-five ascents, or more during its brief existence than all other balloons together in America in the same period. Mr. Myers attributes these successes to the peculiar experiments which have been made in the interests of aerial flight—a good deal of liberty having been taken with the balloons in the way of "harnessing" them, or managing them so as to control in some measure the direction taken in their flight or fall, and two instances of startling novelty will be mentioned here as having important bearing on the peculiar features of the gas kite and aiding to a comprehension of its merits.

The balloon "Flying Cloud"—the same used for the Fourth of July

ASCENSIONS FROM UTICA

in 1878 and 1881—was sent up also by Prof. Myers, at Mohawk. When ten miles away it made a fall of almost unparalleled rapidity, descending from a height of two miles in two minutes. This was one of a series of experiments conducted by Mr. Myers to test the speed with which certain forms of gas holders could be driven through the air. On this occasion the balloon ascended "plump full," its distended sides press-

ing hard against the netting around. It fell retaining its shape, a pointed cone at the bottom, the neck of the balloon being within reach of the aeronaut; the speed of this large object—a mile a minute—being wholly checked within a few hundred feet of the ground by throwing out a small amount of ballast, when it fluttered lightly to the earth without the slightest jar or scratch. This balloon was well named “Flying Cloud,” and it certainly put to practical test the untried theory that a cone pointed balloon could be driven through the air at great speed, with slight force. A test of entirely different character was made soon after.

The balloon “Aerial” was filled with hydrogen gas, generated from water in a couple of hours by Mr. Myers, at Richfield Springs, N. Y. It was desirable to have it land near Fort Plain, some thirty miles distant, to increase the interest in a proposed ascent there.

The aeronaut managed to dodge about the clouds at different elevations and in different currents, first toward Mohawk, then eastward, southward and north-eastward, till over the Mohawk Valley in range with Fort Plain, which place was reached in about thirty minutes, the strong wind sweeping swiftly past the town. At a height of two miles

ALL THE GAS WAS LET OUT,

when the underpart of the balloon was forced upward till the whole was a mere empty umbrella above, surrounded by the netting. The balloon was now some distance beyond Fort Plain, but by tilting or swinging one edge of the parachute lowest and toward the town, the empty balloon fell slanting in that direction in the face of the wind blowing it away. It seemed almost impossible to get the “kite” down, the wind blew so, but in some fifteen minutes of dizzy swaying it was worked down the two miles, and managed to land near the town in spite of the wind, alighting as easily and gently as a falling leaf.

It will be seen that it is of the first importance in a "flying machine" that it should be so constructed that in case of accident or bursting it will parachute or form an umbrella surface like the "Aerial" on this occasion, and that this form is nearly self-supporting when it moves against the air or the air moves against it. From the experiment with the "Flying Cloud" from Mohawk, it will be inferred that if a cone-pointed or spindle-shaped gas-holder can be urged swiftly through the air by slight force, a split spindle, which has sharper points for overcoming air resistance, will move more easily still. These conditions are all combined in the

THE GAS KITE.

Looked at on its side it appears like a canoe bottom up. Viewed in front its section seems like that of a half sphere or dome. Its under side is flat, like a kite, and its interior space is filled with gas enough to nearly lift the entire machine and aeronaut. A balloon netting surrounds it, and its cords support a concentrating ring, exactly as with an ordinary balloon. Instead of the customary basket, there hangs from this ring a broad velocipede seat. In front of the operator, where the "steering bar" of a velocipede is, there are cranks for the hands instead. At the feet are ordinary velocipede cranks. All are geared so that moving one crank moves all, and together they revolve a screw shaft which projects to some distance in front like a bow sprit, supported by the netting and stays. At the outer end of the shaft is a huge screw of cloth supported by two yards, like a ship's sail. This lies flat and motionless like the outspread wings of a soaring bird until revolved, when it instantly twists itself into a screw by the air pressure against the afterpart, and when under motion it hurls a volume of air backward against the slanting under surface of the

kite, buoying it up and pulling it forward through the air. The machine then mounts, carrying as much load of ballast as the strength of the aeronaut will permit. On slowly attaining say a mile in height, the aeronaut leans forward his weight, making the bow heavier, and rests from his labors while the machine falls downward and forward, gathering speed, the outspread screw increasing the kite surface. When the momentum is gained and the kite nears the earth, the aeronaut leans backward his weight, and the bow again points upward—the machine shooting up like the upward swing of a pendulum after its fall. When it shows signs of weakening the screw is again revolved. As a parachute or kite always moves in the direction of its advancing edge, the aeronaut merely leans his weight to right or left for guidance, exactly as a bird inclines its outspread wings. Indeed, its resemblance to a bird in action is very striking. It reaches forward, grasps the air, and while pulling itself onward it throws its waste air against the under surface of its body to buoy it up. It has weight, so it can fall in any direction without effort, and its direction is controlled by the will or movements of the aeronaut—the whole machine and man, being in effect, one.

BASED ON PRACTICAL TESTS.

It is not the result of superficial guesswork by theorists, or the frenzy of a flying machine lunatic, but is based on tests and actual use of its several parts through many seasons' practical operations in aeronautics in all parts of the Union, and it is only an improved adaptation of conditions constantly made use of by Prof. Myers and his aeronauts. It has not sprung suddenly into existence, but has "evoluted" by a system of "survival of the fittest" among its species; for instance, the two important features of the peculiar screw sail and its buoyant action on the kite

were of the nature of actual discoveries made in the upper regions of the atmosphere. Mr. Myers rendered an ordinary balloon "navigable" by screw and rudder, attached to a basket habitually used by the lady aeronaut Carlotta, and consisting of a half-inch board bottom supported by hammock twine—the whole basket, screw and rudder weighing only $9\frac{1}{2}$ pounds, the rudder being a cloth kite stretched on two crossed sticks, attached with a novel universal joint which permitted its unlimited movement, turning or twisting in any direction. It was found that when the rudder was swung forward, slanting directly over the basket, like an inclined awning, just in rear of the screw, its effect as a rudder was reversed, and instead of guiding the basket downward, the blast from the screw against the under surface of the rudder kite lifted the poised balloon upward whenever the screw pulled it forward. This feature was immediately made use of in common ascents afterward, and the Aerial Velocipede or Gas Kite is the direct result of combined improvements.

CHAPTER X.

Ascension at Watertown, N. Y., July 4th, 1882—Generally bad weather on that day—Air currents and “hand power” as balloon transporters—Delicate responsiveness of the Aerial—Ease with which a balloon may be moved in a calm or deviated from its course with the wind.

The customary racket and banging inaugurating the Fourth of July throughout the United States produced their customary results in 1882, concussions of air being naturally provoking to the “clerk of the weather,” who usually puts aside any minor engagements to wait on our Republic on that day. On this occasion no re-arrangement of the weather program was needed, as the sky had been already perforated immediately over every place where a celebration was advertised, and a general down fall of rain was waiting to drop when cut loose.

Many celebrations were postponed in consequence, but not that at Watertown. The *Utica Observer* says in reference to the ascension there, that notwithstanding “the damp atmosphere of the Fourth proved a great obstacle to balloonists generally, the lady Carlotta made a very fine and successful ascension, and though a breeze was blowing at the time from the north the rising Aerial moved toward the north till two miles

away, then exactly retraced its course, passing so directly across the spot from which it arose that the lady could have descended within the enclosure."

It concludes with quoting the report of the Watertown *Daily Times* as follows:

THE BALLOON ASCENSION.

The most attractive feature of the celebration was the beautiful ascension of the lady aeronaut Carlotta with the Aerial. Prof. Carl Myers, of Mohawk, N. Y., the aeronautic engineer who had charge, commenced generating hydrogen gas from water at 12 m., and at 3 p. m. had a sufficient amount made to complete the ascension; but interesting features of the program for the celebration were then in progress and made it expedient to delay the ascension till a later hour to permit entire enjoyment of the day's attractions. If the weather proved propitious, Prof. Myers contemplated operating his aerial screw-sail and rudder-kite attachment for navigating the Aerial.

Meanwhile a cold and somber sky, without a warm gleam of sunshine, combined with the damp air, (almost chilly for the 4th of July,) during the delay between 3 and 5 p. m., the hour of ascension, so condensed the gas, that notwithstanding the generators were all the time actively pouring their charges of ethereal hydrogen into the balloon, it scarcely counterbalanced the shrinking and condensation of the gas as nightfall approached and it grew colder. A few sprinkles of rain which prefaced a slight shower finally decided Prof. Myers to send the Aerial off without further delay, so as not to imperil the lady's ascension.

The spectacle will long be remembered as the finest occurring in this region. The lady was dressed in a jaunty suit of blue flannel trimmed with gold braid,

her short skirts revealing neat-fitting gaiters. A nobby sailor's hat of plaited straw crowned the whole and gave her face a boyish piquancy. She stepped lightly into the frail contrivance which serves Carlotta in lieu of a basket. This consists of a thin platform of half-inch board of oval form suspended by hammock twine to the concentrating ring of the balloon, and as the Aerial gently arose, the entire proportions of her youthful figure could be plainly seen, apparently standing on the very air itself, as she waved her hat in salute. The Aerial glided slowly toward the north-eastward of the Square, the aeronaut dropping a small bag of sand as it hesitated, the balloon responding by a quicker rise.

It passed to the northeastward a mile or two, rising to a mile in height. Then its course was retraced, the Aerial passing quietly over Public Square, so that had the lady so desired, she might have descended exactly into the enclosure from which it arose. Rising to an indicated height of $1\frac{1}{2}$ miles, she descended a few miles from the city, with such rapidity as to cause alarm among the thousands who witnessed the fall. This was done to avoid being carried by a wind which was blowing with increasing force carrying the Aerial towards a swampy neck which extends from the broad base of Lake Ontario. The flexible "basket" here proved of great advantage, the lady inclining the flat platform so that it fell in line with its lower edge, guiding the balloon to a safe landing on the only near spot of land free from trees or deep water, on the edge of Smith's swamp, on Albert Horr's former place, on the Sackett's Harbor road.

Mr. W. V. Smith, a farmer from Sacketts Harbor, rendered excellent assistance to the lady and balloon, and Mr. W. J. Griffith kindly assisted and conveyed the lady and balloon to the Woodruff house. Altogether, the occasion will be one long remembered for

its truly beautiful ascension, and the Fourth of July committee are deserving of praise for their successful and interesting program, carried out with more limited means at their disposal than usual, the program resulting in filling the city with crowds instead of having the streets wholly evacuated, as they would otherwise have been by attractions elsewhere.

The Watertown *Re-Union* says :

The feature of the day was the balloon ascension by Carlotta, under the management of Prof. Carl Myers. A more beautiful sight was never witnessed. Nothing could have been prettier or more artistic. Prof. Myers had everything in A No. 1 shape and when the balloon was released from its moorings it rose gracefully and gently. Carlotta looked as pretty as a picture and stood up in full view. Rising about a mile the balloon veered to the northeast, then changed its course and passed directly over the crowd, who watched and applauded the daring lady until she was out of sight.

* * * * *

Few persons other than aeronauts of experience and experimental inclinations realize the true conditions attending a light balloon nearly balanced in the air. No matter how swift the current is, the balloon wholly immersed in it is practically in a "dead calm." There is no sense of motion. The golden globe of gas above poises like a tufted sphere of thistle-down, the passive creature of every breath of air, and acutely sensitive to every movement of the occupant below. A hand wave, or a sudden gesture, is met by a corresponding thrill and change in the balloon. It shudders if I cough and seemingly goes into spasms if I sneeze ! If I sit down the balloon rises. If I stand up again the

balloon falls. If I step from the center toward the edge of my platform that edge falls and the opposite edge rises. I said "step." I do not step, I only raise one foot while the other foot pushes the basket backward, just like walking in a very light boat on water, only immensely "more so"—it is walking on the air. If I turn around, or attempt to, the balloon turns in the opposite direction and still leaves me facing the same terrestrial objects as before, so that to see behind me I crane my neck about while I keep my body still. I am on a gaseous "planet," but I weigh twice as much as the orb which bears me and it is correspondingly subject to my will and motions. "We" are one. "We" can lay hold of nothing but the dead calm air about us. If we can by any means grasp that, pull it toward us, hurl it backward, or thrust it to one side, we can move through it where we like. With my light and frail straw hat I fan myself, and the deluded balloon, quieted by the little puffs of air from it, passively permits me now to turn about in the basket, as it would not do before. If I thrust my hat upward against the air the balloon falls slightly, only so very slightly, yet the barometer shows signs of change in elevation after several quick thrusts and slow recoveries. It is *motion* and who doubted it! I wave the fragile air ship about to one side of the true wind course or the other, as I choose to press against the air. Truly, my "nobby sailor hat" is a little paddle!—only it is not big enough. The screw sail has a

broader grip upon the air and its influence is correspondingly manifested when I turn it, raising a wind which, meeting no obstacle in the hammock netting sides of the basket, flutters my skirts and ribbons with as good an imitation of a breeze as one could wish. Still, the Aerial is too big for it, and only slowly advances. If one only had a balloon the size of a washtub!—and as light as a feather! A good idea—I'll note it down:—

“Mem:—To have Prof. Myers construct me a balloon of feather weight and tub dimensions as nearly as practicable.”

Presently the Aerial spurred up by the sand thrown out, thrusts its bulb into a swift cross current of upper air which tilts it violently to one side, the basket remaining momentarily in the quieter space below, then oscillating like a pendulum bob as it resists the sudden change in speed and course. To steady the balloon I throw my weight contrarywise, just as in a common swing we start or stop by lurching of the body.

Now in perfect quietude, yet with all the speed of the swift flowing stream, we hurry along. The miles, the little bits of miles, glide by like an endless band. They seem of little account indeed, only convenient terms to assist the imagination, yet they gradually lead dangerward; for we are entering the mist above us and it will not do to lose our bearings here, with Lake Ontario waiting for us.

Pull the valve cord, just an instant—gently, just a

touch—the Aerial is “tender bitted” when so nearly poised; while ethereal hydrogen and grosser sand are riches here, of equal value, and constitute our “wealth.” Slowly the delicate needle index of the barometer moves backward past the minute divisions of the scale of feet and inches denoting altitude and pressure, then faster and faster, as the speed of fall accelerates, till a handful of sand checks it.

Where are we now? Behind is Watertown, where I know are thousands of eyes gazing at the little planetary dot so essential to my preservation. On my left are fields, fences, forests, and sandy farm lands. Northward glimmers and shivers the cool waters of the St. Lawrence river, its “Thousand Islands,” seemingly proving title to their number as one glance takes them in. Before me stretches Lake Ontario. Its farther extent of dull and leaden surface curves toward sunset and is lost in distance, while its nearer edge insistingly invites me to “cold duck.” “Thanks! not this evening;” and now for a landing.

There is just one suitable spot, quite a distance ahead, and to the right of my wind course, and I decide instantly that there is only one way of getting to it and remaining there in the face of the wind—I must let out so much gas that the balloon will drop swiftly, and land with so little gas remaining in it that it will not rebound into the air as usual or be dragged along the ground by the wind. I must also tilt the balloon and basket toward the right so that

instead of oscillating in the swift fall, it will descend on one inclined plane to the right while blown forward toward the target at which I aim.

The Aerial's pendant neck jerks upward with the instant pressure of air below as I pull the valve cord down, and now, with a rush, in swift diagonal course, earth and balloon fly at each other. Could you stand alone on a rail road track, facing an express train coming around a turn, and then get fairly hit by its resistless mass—and still live—without apparent injury—you might thereby acquire faith to try it again. Well, that is the way it seems. It certainly is a great disappointment to finally realize that every sense of fear has been at fault and that you have landed without harm.

The point upon which I landed and the course I took to reach it proved my salvation in this case, as all about was swamp, into which the wind would have carried me, where bushes rising through the water prevented any possibility of swimming, wading, walking or boating—a locality seldom disturbed by anything except the sullen wash of Lake Ontario, whose length beyond the marsh stretched 150 miles further in my course. The gentlemen who assisted me after my descent told some ghastly tales about the skeletons of wanderers in this region occasionally found when water subsided during dry seasons.

CHAPTER XI.

Ballooning at Saratoga Springs, N. Y.—Emptying one balloon into another—An unpleasant mishap in the sky—The first affright of my life—Queer behavior of a dog acquaintance.

Singularly enough Saratoga had never had a balloon ascension, though several unsuccessful attempts at ascensions had been made by other parties previous to 1882.

The Congress Spring Park Co. had arranged for one by myself August 8, but just as gas commenced generating nicely a misty rain set in, prohibiting visitors as *dilettante* as Saratogians, and the management therefore decided to postpone the ascension till next day; but enough acid having already been administered to the gas generators to result in finally filling the balloon half full, it was accordingly left anchored in the rain to collect this gas for the morrow.

During the night it rained copiously, and although the morrow turned out fine the balloon was so saturated and unpleasantly dripping that Prof. Myers decided to attempt to empty the gas of the Carlotta into the Aerial, a nearly impossible feat.

The Aerial was stretched out opposite to the Carlotta and its netting adjusted. Then both balloons were

united at their neck, and by a system of adroit manœuvres a portion of the Carlotta's gas was forced into the Aerial to raise and float it above the Carlotta, which then "upset" its remaining hydrogen into the air-ship upheld over it—altogether a novel undertaking, and I think never successfully accomplished before. The inflation then proceeded as usual, as noted in the abbreviated and combined reports from local papers quoted below.

From the *Daily Journal*:

The balloon ascension made from Congress Spring Park yesterday afternoon drew together one of the largest crowds that was ever inside of the enclosure. Not only were the chairs and settees filled but the two unoccupied band stands, the pavilion and the hill-sides had hundreds of spectators whose interest was all centered upon the avenue west of the fish pond, where Prof. Carl Myers was inflating his balloon, "Aerial." The gas was manufactured by a simple process on the spot and the inflation only occupied about three hours. Four large hogsheads with pipes converging to a cooler and purifier was the apparatus and about half a ton of iron chips and eight carboys of sulphuric acid was the material. At a few minutes past five o'clock, the inflation being complete, all who could get around the balloon drew it carefully to an open spot on the lawn, and Carlotta, the *voyageur*, stepped into the car attached. Doring's band struck up "Up in a balloon, boys," and the balloon rose steadily and grandly upward. It was a delightful afternoon, not a breeze ruffled the trees, and all the circumstances were most favorable. Nearly everyone was standing, but nobody had occasion to shout "down in front," for all

eyes were turned up to the clear, cerulean blue sky, which the balloon was hastening to meet. It went to the south-east as it rose higher and higher till it looked about as large as the ball on the music pavilion, and then drifted slowly to the north.

From the *Daily Saratogian* :

The balloon ascension from Congress Spring Park yesterday afternoon was one of the most perfect things of the kind that was ever witnessed. There was no failure this time, and the immense crowd of people did not have to wait beyond a reasonable time before the spectacle was ready. The "Aerial" was rapidly filled from the tanks in which the heavy vitriol and iron were transformed into the buoyant gas. At 5.15 p. m. Mlle Carlotta stepped into the basket with apparent confidence, the ballast was put in, the word was given for letting go the ropes, and the silken craft with its daring occupant rose gently and perpendicularly far above the tall trees of the park, the lady waving her handkerchief to the applauding thousands below. The course taken on reaching the first current was in the direction of Saratoga Lake and she must have been nearly over the lake when the balloon seemed to strike a new current and was carried rapidly to the northward. It was watched until it became a mere speck on the azure canopy of air.

The daring aeronaut returned last evening and brought back the following particulars of her frightful journey through the sky : When the balloon was seen to veer to the north, it struck a new current and for a time, was whirled around in a vortex, and the basket was shaken and twisted in a frightful manner. Her barometer showed that she was two miles and a half high, and it was so cold that her breath condensed and steamed as on a January morning. Just after she began to descend, the valve cord broke and she could not control the balloon. It came down quite rapidly

towards a large tract of woods, and she could not control her landing place. She did not dare to throw out her ballast, for fear she could not descend when she desired. The balloon came sweeping down and bounded along on the tops of the trees until finally its cords got twisted in the branches and it was held fast in the top of a tree in the depths of the Hosca Baker woods. Fortunately the attention of James Cleveland was attracted to the balloon as it descended, by the great commotion among the chickens and turkeys, and he set out and found the lady in her perilous position. He was obliged to chop down the tree, when the balloon and the aeronaut also came down, with only a few scratches. The balloon, which is sixty-five feet in circumference when filled, was borne on Mr. Cleveland's shoulders out of the woods, and Mlle. Carlotta, with her silken car, reached Saratoga by private conveyance about 10 o'clock in the evening. The distance to the Baker woods is about six miles. This is the 67th ascension with this balloon. The balloon filled yesterday in just three hours. Mlle. Carlotta may be said to be a veritable high flyer. It is probable that another ascension will be made next week, and there is a prospect of some "captive ascensions" when persons ambitious to look down on Saratoga will have the opportunity.

On this occasion I experienced the first and only feeling of alarm or sense of danger that has beset me in the air. I had just dispensed ballast to urge the Aerial upward into a current which I knew would drift me away from Saratoga lake, when all at once the balloon shook violently, as if my little planet had caught an earthquake—assuming such maladies to be contagious. First came a premonitory shiver, then a shock, and then almost a "spill," as it canted over to one side and then

swung violently back. Its folds rustled and vibrated with repeated spasms, while it rocked dizzily, pitching, tossing and whirling as I had never known it to do before. The Aerial was crazy, surely. It paid no heed to my movements in opposition to the oscillations, but continually threatened to whirl over and jerk itself free from the basket, while I formed as helpless an appendage as the cracker of a whip. It seemed as if some giant of the air had resented our intrusion of his domains, and, clutching the balloon with invisible fingers, had administered a most tremendous shaking which threatened to dislocate its members and hurl all in fragments earthward. My only confidence lay in the stability of the parts composing the balloon. It was in thorough repair, and the netting which bore all the strain was comparatively new; yet I was nearly sea sick, and I lost heart from the continuous tossing and pitching. I believed that the invisible powers of the air were too much for me, and, after fruitlessly endeavoring to get the balloon under subjection, I caught the valve cord and with a pull upon it I incontinently fled the field of aerial turmoil. I shuddered anew as the suddenly opened valve sprang shut again, with a ringing clap, and the parted valve cord came sliding down into my basket. I was truly helpless. What could one do with a frantic steed and a broken rein; a cyclone above and a mile abyss beneath!

The balloon was now falling rapidly, and the landing place below was in every respect undesirable. Throwing

out sand would make my steed "get up" like the stroke of a whip, but I did not want another interview with the wind giant, so I treasured my sand till I could be sure of grappling the forest below. When so near that I felt sure of holding fast with my anchor I eased the fall with ballast thrown out to prevent being accidentally impaled on some leafless tree, and when a good looking one came along I sought its assistance, literally jumping into its outstretched arms.

Thus I found myself "safe," but like some valuable hidden too carefully, I was still completely lost. All about were deep woods. Above me swung the Aerial quietly throbbing like some tired and panting steed after a break neck gallop. My basket tiptoed lightly up and down on a slender supporting branch. I leaned over and tried to pierce the thick undergrowth below me. Then I shouted for help—not a feeble, feminine screech, but a good, deep-toned, healthy "hello!"—booming like a bell, it seemed to me, as the balloon reflected it. What a blessing a substantial voice is, to be sure!

Pretty soon I heard another, very faintly, in reply, as if a great way off. Then I felt that we had got a telephone line up and communication established. Guided by my calls the distant "hello" gradually came nearer, as if the owner of the voice were very slowly crawling along the line. The comer proved to be a young farmer, Mr. Cleveland, who had kindly sought me out. He tried to persuade me to "come down" by

means of the anchor rope, but I told him that if he would persuade the tree to "come down" first I would follow, but I would on no account desert my air ship. It seems somewhat singular to me that the public generally regard a balloon as so dangerous a monster that their first duty to an aeronaut in apparent peril is that of "rescuing" from the monster's toils, instead of rightly esteeming the balloon as a support and safeguard from falling.

While a balloon remains staunch and buoyant it presents a means of escape *when all other means fail*, and I can not too forcibly iterate the advice "Don't give up the ship!" It is almost invariably safer to remain by it or in it under all circumstances than to attempt to escape from it.

Mr. Cleveland finally cut the tree down, or rather, cut it off, and then pulled it down, as the woods were too dense to let it fall. The tree, although a slender one, opened a pathway downward for the balloon.

The anchor and rope I left securely fastened in an adjacent tree top. The net and basket I carried, while Mr. Cleveland with the emptied balloon led the way to the nearest farm house, two miles away.

The first "person" to greet us was a huge dog who appeared as we laid our burden down by the farm barn. I say "person" advisedly as this dog had a good deal of personality as I afterwards discovered. I was very warm, tired and thirsty, and I was really glad to meet and cordially shake hands with a pump in the yard.

If my capacity had matched my inclinations I think I should have left only a dry well there, but the lady of the house, a motherly kind of woman, poured water on my hands and wrists to cool them but would only let me drink sparingly—and so saved the well! While I stood talking, after bathing my hands and face, the large dog, (who had meanwhile closely inspected all the balloon matters as if taking an inventory), came up to the group at the pump and thrust his nose into my open hand hanging beside me. Next he confronted me, and springing up with a paw on each of my shoulders, essayed to lick my face. The owner of the dog and the gathered neighbors all cried out in great alarm, for the dog had so great a reputation for savageness that no neighbors dared approach him alone, and they felt sure that he was about to set his fierce teeth in my throat. But he was only paying his “devours” to me in another way. I think that I, too, should have been frightened had I known of his ugly reputation, and the fact that he had, only that day, while out berrying with the women, killed and “buried” on his own account a monstrous black snake and two woodchucks! but I innocently accepted his friendly attentions, and really felt grateful to him when I learned later that his watchful habits and howls of warning had been the means of attracting attention to my balloon when it first appeared above him. He seemed now to understand all about balloons and aeronauts, and he kept close beside me as we went into

the house, and lay down at my feet, watching my face all the time that I was telling my story. When we put the balloon apparatus aboard the wagon which Mr. Cleveland had procured to carry me to Saratoga, the dog again closely inspected everything and followed one piece of baggage after another as they were successively carried to the wagon and loaded on. As we drove off he watched me till out of sight, and I really think that he was the most sincere admirer and friend whose acquaintance I formed during my entire summer tour.

CHAPTER XII.

Numerous child-friends at Saratoga—Largest crowds ever gathered in Congress Park—My third ascension there—First flight of the "Zephyr"—An air ship "smaller than a wash tub and lighter than a feather—Flirting with the air."

The people whom I found most interesting among the crowds at Saratoga during my series of ascensions from Congress Spring Park were the children, whom I dearly love. They resorted to the Park in great numbers, with and without their nurses, or other guardians, and they congregated about me, when I sat at leisure or accompanied me on my walks. Many of them cried upon the occasion of my first ascension as I drifted from their sight. They hung about me without being intrusive. They beset me with questions, never importunate, though often hard to answer, and they ventured the most *naïve* remarks and comments, seemingly far beyond their years. I think I never saw together so many real little ladies and gentlemen, courteous and helpful, in so short a time.

I am told that many other people were present, but I confess that I failed to observe them particularly till later. Still there were crowds. A current newspaper says:

"The second ascension by Carlotta was a grand success, and drew within the grounds of Congress

Park the largest attendance ever congregated there, day or evening, the previous ascension, Aug. 9, having drawn the largest day attendance ever known before. This result, among a class of cultured and wealthy people, and in a locality where a variety of different attractions, such as the races, and other sports, offer diversions calculated to divide public attention, is highly indicative of the interest shown in this lady's aerial flights. Another ascension is advertised to be made by her from Congress Park, Aug. 24, on which occasion she will use for the first time the new silk balloon, "Zephyr," the lightest gas bubble that ever floated a human being heavenward."

The "Zephyr" was the result of Prof. Myers' effort to accommodate me with a balloon made according to my memorandum "of the size of a wash tub and light as a feather." In one sense it exactly met these requirements, as it really was of less than feather weight when inflated and when empty would pack into quite a small tub. On trial it proved an aerial jewel; a very pearl among balloons, which gem indeed, in form and color, it very much resembled. It was finished just in time for the third Saratoga ascension as noted in the *Saratoga Journal*, quoted below:

The third balloon ascension of this season took place at Congress Spring Park yesterday afternoon. Like the previous ones, it was made by that intrepid female known to the public as "Carlotta," and was under the direction of Prof. Carl Myers, of Mohawk, N. Y., an aeronautic engineer of experience and skill. It was generally understood that the voyage would be made in the air-ship, which Prof. Myers has brought to a high degree of aeronautic perfection, but it seems that his smallest balloon was chosen for this occasion and

which was so small that it seemed unable to lift the required weight; but, as the result proved, it not only sufficed, but made one of the most beautiful ascensions ever seen here or anywhere. The balloon was named the "Zephyr," and from the fact that it was the only zephyr around, is largely due the success of the trip. There was an immense number of people in the park all the afternoon watching the inflation of the envelope, and as the hour of five approached several thousand expectant persons were grouped about, standing upon chairs and little elevations with their eyes fixed on the fast expanding balloon and the little figure standing erect in the car below. Carlotta was photographed just previous to the ascent and while suspended in the air. At 5:15, all being ready, hands were loosened, the band struck up, "Up in a balloon," and the globe rose slowly, steadily and grandly upward. Everybody said, "There she goes," and "Oh! oh-h!" and that was absolutely all the air there was stirring. The balloon went up in full sight of the admiring crowd, passing slowly southward till it was over the southernmost part of the village, when it began to come down. Several hundred people started up Broadway in that direction, but the voyageur threw overboard some ballast and again rose to a great height. The atmosphere was very quiet and the scene became an exhibition in the air. After the crowd was apparently satisfied the balloon was exhausted and came safely down, south of the cemetery and about a mile out of town. The aeronaut was assisted to the ground by the same Mr. Lewis who happened to be at hand at the descent the week previous. Such ballooning seems to be at once a popular and dangerless amusement, and it will be well for Superintendent Schuyler to make it a regular feature in future as he has done in the past.

The young Mr. Lewis referred to had on my pre-

vious descent been gathering watercresses some five miles out of town, and after rendering valuable assistance on my landing in a strong wind and afterwards conveying me to town, enthusiastically promised with honest confidence to renew his kind services at my next descent, which promise I had no idea at the time could have any likelihood of fulfillment, as I might land many miles away; but it seems that even here "history repeats itself!"

After the first ascension at Saratoga the operations there were conducted very expeditiously, partly on account of Mr. Myers' pressing duties and engagements, and partly because it was desirable to preserve the extremely neat and orderly appearance of the grounds from the *debris* and impedimenta naturally attendant upon a gas factory. Mr. Myers usually arrived on the grounds by train from Mohawk at 10:40 A. M.—the gas generators and materials, stored near, having preceded him by a few minutes. By noon the apparatus was fully charged, pipes connected and all in readiness. About 2 P. M. inflation began, and immediately after the occurrence of the ascension the generators were emptied, and, with everything attendant, removed from the grounds, which were then restored to their former neat condition, so that nothing whatever remained to indicate the recent ascension when the usual open air concert and promenade occurred during the evening—Congress Spring Park being unquestionably the most carefully attended park in the

country, as the class of regular frequenters render the presence of any unsightly litter particularly undesirable.

CHAPTER XIII.

First balloon ascension at Pleasure Island refreshingly reported by the Albany *Argus*—Sailing up the Hudson and landing on barbarous shores—Rescue from a "West Troy crowd."

UP IN A BALLOON.

A large crowd at Pleasure Island yesterday—A great aggregation of attractions—The ascension of the "Aerial"—The intrepid Carlotta.

Yesterday was a great day at Pleasure island. The advertised balloon ascension by Carlotta served to draw a crowd numbering thousands. Troy fairly spilled itself upon the isle, while there was a goodly sprinkling of Albanians present. Ordinarily, it would not seem that the residents of cities so conterminous as Troy and Albany were so different as to be easily distinguished by their respective make-ups and conduct, yet the fact that they are widely dissimilar is as patent as sunlight. The most glaring dissimilarity is found in the young men. A Troy young man is as easily picked out as an over-ripe egg. He wears his hat like an epaulette, converses with a bass-viol voice—but, happily, in a tongue unknown to many—and expectorates like the exhaust-pipe of a tug-boat. He enunciates the name of his native city with the resources pertaining to a pollysyllable, and generally makes himself as interesting as a bad chorus in a Chinese opera.

But this is not on the island, although the Trojan youth was there by a large plurality.

The crowd was large at two o'clock in the afternoon, and received additions by the boat-load until four o'clock. The sun was as industrious as in midsummer, and there were just enough carriages making the circuit of the island to keep the air full of dust. The band and refreshment pavilion was thronged, and the unanimity with which lager was indulged in was striking. The amber beverage was quaffed by fathers and mothers, youths and maidens, grandparents and infants. Family parties sat at tables and drank it to the music of a band small in numbers, but ambitious in purpose and effective in sound. The scene suggested one of the cosmopolitan gardens of the metropolis. Down upon the green the minor features of the place flourished. The hum of enjoyment was punctuated by the sharp reports from the rifle range. The transient photographer secured the shadows of loving couples and family groups. The proprietor of the stall devoted to debilitated lemonade and cakes worked as man never worked before. The flying horses flew without cessation, moved by a steam engine which at the same time spurred a loud-voiced barrel organ to a melodious canter. A tenter Punch and Judy show, over the entrance to which was the legend,

"Five cents to all,
Both great and small,"

did almost as much business as a circus and the parrot-like voice of the leading character was frequently heard above the noise outside. In fact there was more and a greater variety of amusement than is generally found aggregated. But withal the main interest of the day was centered in the balloon ascension. A lemon-colored pile of oiled silk and netting, surrounded by a barbed wire fence, was the point of attraction for the crowd. At about two o'clock a slen-

der man, with dark curly hair and wearing yellow overalls, connected the shapeless mass with a generator of hydrogen, which looked like a moonlight distillery, and which was composed of three wooden vats with connecting pipes. The balloon did not fill half as quickly as some of the more attentive around the bar in the basement of the pavilion, but at five o'clock, after many uncomplimentary and hopeless ejaculations by those who had watched the operation for three hours, the affair was inflated, its weights were detached, a basket large enough for but one person to stand up in was attached, and "Carlotta" appeared and was assisted into the dangerous vehicle. This was to be her eighty-fourth ascension. She is a woman apparently twenty-eight or thirty years of age, plain in appearance, yet with a face denoting strong will and courage. She wore a simple flannel dress of blue, with plain waist, and no wrap. Her hair was neatly arranged in the double knot now so much affected, and on her head was a childish straw sailor hat, encircled by a blue ribbon. When everything was ready, the "Aerial" was freed, the band started to play "Up in a Balloon"—but shortly dropped the tune in the middle of a bar to cater to their surmounting curiosity—and the air-ship gracefully and rapidly rose amid the "ahs" and "ohs" of the lookers-on. There did not seem to be a breath of air stirring, and the balloon took a perfectly perpendicular course until about 1,000 feet high, when it began to sheer gently toward the southeast. Yet, when it had attained an altitude of a mile, it did not seem to be over a point 100 feet from its starting place. Up, up it went until the basket was undistinguishable, and the balloon looked like an orange, when a current running north-westerly was encountered, and the voyager slowly went in that direction. In half an hour the balloon was so high that many had to look twice to distin-

guish it, and some knowing ones volunteered the information that its altitude was at least two miles and a half. It appeared to be suspended over West Troy or Cohoes, and seemed to stand stationary for fifteen or twenty minutes, when it began to descend rapidly, and was soon lost to view.

I quote the above report partly on account of its quaintly solemn and reverential style, but more especially because I feel charmed by its flattering references to my youth and beauty. "Plain," and "thirty!" Ah me! how aeronautical experience does wreck ones charms, to be sure! How I should like to meet that argus-eyed reporter man and cheer his soul with a weak smile. Perhaps I might inveigle him into the aerial car with me and bring him down with grey hair! However, on one point "our souls are one"—our estimate of the Trojan youth, as I had an experience in observing his variegated capacities for rowdiness at the place of my descent, of which more anon.

The balloon, rising leisurely to a mile in height, floated slowly across the Hudson, whose muddy waters proved to be the only depths that I have so far been unable to penetrate clearly, for at this height the bottoms of streams, lakes and ocean soundings are easy to see on account of the comparatively greater illumination and less reflection they experience relative to the point of view.

The vagrant imps of the air whose breaths wafted me idly along seemed undecided whether to drop me finally into the muddy Hudson or land me on the

wooded heights opposite Pleasure Island whose pavilion with its drooping pennons appeared almost as if directly beneath me though really a full mile to the westward. It seemed such a little step across the river, for a mere mile is nothing to a balloonist—indeed I have before this, on touching earth, rebounded like, like—well, like nothing except a balloon, and then, skyward flying, as if with winged feet kissed by the winds, trod lightly, almost in another instant, fully a mile away, just to touch and go again, realizing practically the idea of the “seven league boots.”

Meanwhile, I patiently waited on the breezes, and waiting I reclined in my hammock-netting basket, tipping it on one side so that only its slender threads supported me as I peered through the meshes at the scene below, and as I lay there the sensation recalled a certain time when I had hung in the same way looking through the meshes downward from the top of a gigantic tree whose topmost branches held me prisoner. I almost forgot myself in remembering how weirdly beautiful the green and leafy avenues along down the tree trunks looked at that time from the novel point of view; but finally I turned over in my accommodating couch, which, acting almost with my will, tilted me face upward, where for some moments I lay gazing through the open, gaping mouth of the balloon, whose symmetrical dome, seemingly filled with nothing, revealed every strand of its netting through the translucent, golden sphere upholding

me. I knew by the open mouth that I was over two miles high, as the Aerial, never full at starting, expands to its full proportions at this height, and could only rise further by loss of gas and ballast. I opened a bag of sand and sprinkled some out, meanwhile pulling one leaf of my valve open by the cord which ran from the top of the balloon to my hand. The barometer hanging before me slowly swayed its pointer first in one direction and then in another just like the pointer on a spring balance or a pair of scales when carefully weighing. By and by I observed that the balloon and I just balanced a column of air 12,000 feet in height and the Aerial again stared at me vacantly with wide open mouth. I turned my back. Down the river lay Albany, but up stream with aerial perverseness drifted my balloon till I next peered down the fiery throats of the Troy furnaces which line the river side. Driven aside by the blasts of heated air rising from their blazing chimneys I sought the farther shores of West Troy for a landing—going verily from Sicily to Charybdis, or to reverse a more homely phrase—"from the fire into the frying-pan." The amiable Trojan youths previously referred to were there, too, "by a large plurality." They were playing an innocent game of base ball, I think, but they wildly abandoned their little game for the bigger one, and came swooping and whooping across the fields to where the Aerial bounded on the grass. This turbulent rabble pushed, jostled and crowded roughly upon

me and the balloon, and it was only with the greatest trouble, and with the sparse assistance of the only two among them all who did not refuse the slightest help, that I was able to rescue the balloon from their tramping feet and roll it up hurriedly into a clumsy cocoon. At this juncture Mr. Eben Wiswall with his carriage and family came fortunately to my assistance, and taking me and the balloon on board drove rapidly off, to the great dissatisfaction of the besieging crowd, who, disappointed of their prey, threw dirt at the carriage, while one impudent urchin caught on behind and endeavored to pull my hair and that of the other ladies within. Mr. Wiswall was truly my deliverer, for this crowd of hoodlums was not merely a handful of *gamin*—or West Troy street weeds; many were grown up young men, with a sprinkling of older heads, but all seemed as little amenable to reason or persuasion as a swarm of vicious hornets, and in all my aeronautic ups and downs this was the first time that I had ever feared any personal harm or looked upon human beings in any other light than as aids or safeguards. Weapons, even a woman's tongue, would only have invited more ruffianism, as they were not to be cowed by fear and had no respect for courage, so I was glad enough when we drove across the river into Troy, as I realized that the apparent calmness by which I had kept them at bay was only a thin varnish, as liable to be broken through as that which kept the gas within the Aerial.

The Troy people, to whom I afterward related my experience, smiled intelligently, and by their comments seemed to consider the whole affair as merely one of the playful testimonials of intrinsic humor characteristic of the West Trojan youth before the rum bud becomes a blossom. Heaven save us from the fruit! When further assured of the actually unpleasant if not dangerous situation they replied, "Oh, well, it was just a West Troy crowd," and that expressive and expansive term seemed, by some tacitly acknowledged and well understood condition, to exactly cover the situation. Troy looks down upon the deeper depths of West Troy with self-gratulatory sentiments!

CHAPTER XIV.

Opening of the fair season of 1883—Ascensions at Ogdensburg, N. Y.—terrestrial dangers of ballooning—nearly asphyxiated with hydrogen.

Quite a number of the engagements with Fairs this season were for more than one ascension, it being concluded that if large crowds would attend a first ascension, still larger ones would attend one or more following ascensions. The first of these was at Ogdensburg, denominated in the *Journal* as a "red letter day in the annals of the Oswegatchie Society, the attendance being 15,000, and the largest crowd ever seen on the fair grounds on any occasion."

This ascension brought conspicuously to public attention the fact that there are dangers pertaining to ballooning besides the somewhat exaggerated "perils of the air." The balloon *Carlotta* was used for the first ascension, and during its inflation Prof. Myers several times expressed his anxiety at the non-appearance of the valve cord, which can usually be traced through the half transparent envelope on its course from the valve to the neck of the balloon. Upon completion of the inflation at 3 p. m. that important cord was discovered to be hanging in a tangle just about midway in the sphere of hydrogen, and Prof. Myers

decided that it was practicable to enter the balloon and release it. Men were stationed around the netting to pull the balloon and crowd it snugly down to the ground so that the cord pendant from the valve might be thus lowered within reach. Prof. Myers cautiously insinuated himself through the balloon neck and then standing erect within the flattened globe essayed to catch the loop of the tangle as it slowly swung to and fro past his outstretched fingers. I was stationed outside the balloon but close to him, with watch in hand, and with orders to drag him out immediately if absent more than two minutes, it having been ascertained on several previous occasions that he could safely do without air that length of time. I was also directed at a given signal to order the men to let the balloon up so that it would rise from off him. It seemed a very long time indeed after he disappeared from sight and the second hand of my watch slowly passed the 60 dots, marking one minute's duration; then it began its second course around, and the two minutes were nearly expired and I began to feel that I as well as he would expire, as the hydrogen poured in torrents from the mouth of the compressed bag, when he gave the signal to let up. I essayed to give the order to the men, but my voice through inhaling hydrogen gave only the faintest far away squeaks till I rushed from the fatal portals for a gasp of fresh air to talk with, hydrogen being almost as "silent" as a vacuum. The men said my face was "red as a beet," and that is the

way I felt. Prof. Myers, however, had apparently suffered no inconvenience from the gas, and in fact had breathed none of it.

The valve cord being adjusted properly the two Carlottas, big and little, went up together, only to come down near by through lack of the gas lost while disentangling the cord. It seems that in order to catch the tangle of cord Mr. Myers had been obliged to leap upward and grasp it, thus jerking the valve violently open so that gas was lost copiously from both top and bottom. Throwing out my basket of pigeons as I arose would have enabled me to ascend, but as their flight at a higher elevation was part of the advertised programme, I was desirous of carrying it out, so the balloon was towed back to its enclosure with me in the basket, the still active generators connected, and the balloon energetically replenished, going up beautifully a little later and giving me an excellent view of the last heat of a race just occurring. The course was northeastward, diagonally approaching the St. Lawrence river. After a six mile flight I had presented to me the choice of a long diagonal cruise over the river at nightfall, or an immediate descent, and I discreetly chose the latter.

The "Zephyr" going up the next day took a diametrically opposite course, going southwestward about the same distance. The reported attendance during both days was the largest ever known upon the grounds, and during the fair aggregated 35,000 persons.

CHAPTER XV.

Danger and delights o'er land and sea—A brief ocean voyage in the air propelled by wind and hand power.

Hingham, Mass., was the scene of two violently contrasting aerial voyages during two days of its Horticultural Fair, September thirteenth and fourteenth, 1882. The locality is about fifteen miles south east of Boston, Massachusetts Bay intervening, while on the eastward at a little distance is the open sea—Hingham being one of the many summer resorts which lure the visitor with the charm of salt water surroundings, and on that very account not especially inviting to an aeronaut, who although a sailor is not a seaman, and liable to get out of the proper element should the balloon venture on an ocean voyage.

As noted in the *Hingham Journal*:

"The event of the day on Wednesday was the ascent of Mlle. "Carlotta" with the "Zephyr." A better day and more favorable circumstances could not have been secured had they been procured to order. The air ship, which was filled with hydrogen gas generated upon the grounds by a method original with Professor Myers, rose easily and gracefully, with Carlotta upon her thin board platform. The first current of air carried her in a northerly direction, but at a height of 9,000 feet an upper current returned the air-ship, with the aid of the screw-sail and rudder operated by Carlotta, over the fair grounds to the south-easterly. The

"Zephyr" came down at 4:45, after having been up an hour, in pasture land of Lot Bates, in Scituate, and about a quarter of a mile from a house, with no damage to the aerostat or aeronaut."

The ascension was prefaced by a dinner in the Hall, at which Gov. Long, ex-Gov. Banks, Lieut.-Gov. Weston, the Secretary of State, Secretary Board of Agriculture, Mayor of Concord, and other notables were in attendance.

At the time of ascension a light ground breeze prevailed, blowing westward from the Atlantic coast, while a mile or two higher up the clouds floated steadily seaward. When all was ready, with the screw and rudder affixed, one on each side of the frail basket, myself within it, and the Zephyr nicely ballasted so that it seemed to have not more than an ounce of lifting power, Prof. Myers tossed the whole upward like a ball, the impetus carrying it skyward about a hundred feet, at which elevation it slowly began to climb an aerial inclined plain toward the west, till brought up with a round turn by the revolving screw sail, which, exerted at right angle to the winds' course, gradually swung me in a curve around the fair ground till my course finally became northward and the shallow waters of Hingham harbor lay below me. Here as I arose higher the breezes lagged for a time in the neutral space between the upper and lower currents, and I gladly relinquished my efforts to direct my air-ship and wholly abandoned myself to the exhilar-

ating influence of the magnificent scene about me.

Massachusetts bay spread abroad all its glories for my admiration. I had never seen anything so extravagantly beautiful before, and as I alone enjoyed it I could not but ask myself the question—"Can this wondrous spectacle be on exhibition daily with only an occasional observer save the Creator?" It surpassed anything that I had dreamed of, or could have dreamed of before—for brightness, color, form and novelty of arrangement were all beyond human conception before observation. The fringing shores seemed as delicately designed as if carefully carved with some sharp instrument wielded by a skillful hand. The transparent waters shone with all shades from palest green to deepest blue, while away down beneath the lowest depths appeared the reflected images of the clouds about me. Midway in this bewildering watery space seemed to hang the somber dales and brighter hills of the undulating bottom of the bay, while on the surface floated islands of all dimensions. It was at times difficult for me to tell what was real and what was reflection, or in what exact position the actual substance lay, as often a space seemed wholly possessed and occupied by each one of the several objects simultaneously presented to observation. All through, over, under and among the mixed masses of swimming clouds, floating islands, sun-bright shoals and darkened depths, glided all kinds of vessels urged by steam, or sail, or oar, and at first it seemed really wonderful to see them

pay so little heed to the phantom perils over and through which they seemingly passed. Shadows pendent from these vessels dragged their extremities up and down the hills and valley or probed them in advance as they wandered to and fro, the shadows more conspicuous than the substance which begot them. With my glass I could note many features not otherwise observable, and I learned that sailors were more observant than landsmen as they so readily discerned the aerial craft above them and saluted me with true nautical politeness, the steamers blowing whistles and occasionally a sailing vessel signalling with flags.

Farther away the vessels clustered more thickly in the vicinity of Boston harbor. Seaward they were more rare, but these were bedded in a rising wall of bluish crystal whose upper edge joined the descending dome of the sky at the horizon—still seemingly at the same height as my car. After some of the vessels trailed long pennons of smoke, like shadowy sea serpents moving in sinuous track, and I noticed that the courses of the vessels themselves were also sinuous, the trail of foam behind them waving from side to side in undulatory wake. The distant sailing vessels looked like white or grey-winged birds striving to mount the skyward reaching wall of water, and when a darkened sail swung about on another tack its whiter gleam in the sun seemed like the flirt of an upturned wing indeed. I did not absorb these details at a single glance; it took time to note them, the first impression

being one of rapturous amazement resulting from the combined influence of all, not to be realized without observation, and never to be justly conveyed in words—an aerial vision indeed!

I had been devoting my entire time to sight seeing, while the "Zephyr," slowly rising, reached at last another zephyr wafting gently seaward, and the first intimation of this change was the sudden realization that the open ocean was approaching, or seemingly flowing toward me on one side, while instead of my being to the westward of the long tongue of land stretching northward from the main, I had gradually drifted till this line fell westward of me. I was doubly tempted to continue on this course; first, by the attractive scenes beyond; and, second, by the relief from "working my passage" which idle drifting afforded; but prudence prevailed, and I reluctantly put the screw sail in motion headed due south, which with the wind's eastward influence made the course southeast, or south of east. This brought me again toward the fair ground at about the speed of a brisk walk, and I presently sailed across it again.

Several times I ceased revolving my sail with the hope of being allowed to devote my whole attention to the scene about me, but at each stoppage the course changed so significantly seaward that the enchantment of its view really consisted in "distance," to be attained only by "grinding away." Next I came down some 5,000 feet nearer the ground, feeling my way for

a current which might drift me westward again, but the lower breeze had changed considerably toward the northward and accelerated its speed, so that the utmost efforts of the screw did little more than retard my drifting somewhat; so I mounted again, keeping finally in the calmest layer of the upper eastward current and then just using the screw at intervals, or slowly, so as to move along the land parallel with the sea beach extending a little south of east. Just as I had got everything fixed entirely to my satisfaction, and was really beginning to take comfort again, a little nut, which fastened one end of the bolt clamping the rudder joint, became unscrewed and fell off. It was an insignificant little thing, a steel lozenge no larger than a thumb nail, but it was very important just then and there, and I watched it hopelessly as it fell down, down, and disappeared. As it fell I experienced a singular, almost irresistible inclination to fly after it, it seemed so easy of recovery, and I had had so much experience in moving about through the air that I seemed to feel it only necessary to step out upon it and go where I liked, without dragging after me (like an aerial ball and chain), the clumsy impediment of the attached gas bag, buoyant and obedient though the "Zephyr" was.

The helpless "rudder-kite" of the "Flying Dutchman" hung loosely in its sockets, and I hastened to detach it and fold it up. Then I used the screw-sail continuously to guide my flight as I lowered for a

landing. When near the ground I quickly unshipped it also and furled it to avoid breakage in landing, or to have it in readiness as additional ballast to throw out in any special emergency while capturing the earth. No such emergency presented itself however. My anchor caught readily in the "pasture land of Lot Bates in Scituate," as stated in the brief extract from the *Journal*. I would here remark for the benefit of unsophisticated foreigners not familiar with "down east" nomenclature, and who otherwise might not suspect it, that "pasture land" in that locality means rocks, rubbish, moss barrens and otherwise apparently desolate wastes, and not, as popularly considered, a territory upon which cattle feed. At least that is my impression! I had been down about twenty minutes attending to my affairs before assistance arrived which carried me some seven miles to Hingham. The entire distance traveled in the air I should think to be about twenty-five miles.

I referred at the beginning of this chapter to the violent contrast between this voyage and another one made the following day. This last was equally as brief as it was precipitate and I shall devote just about as much time to narrating the voyage as it really occupied—viz: *three minutes!*

At the time of ascension a tornado of great violence prevailed, central, in New York State, where in many instances it uplifted houses in its devastating path, shattering them into kindling wood and killing the

inmates. It "broke up" and dissipated several fairs in progress, notably one in my own county of Herkimer, where strenuous efforts had been made to engage me for an ascension after a contract had been made with the Hingham fair for the same date. The influence of this storm was felt in adjoining States, and at Hingham the wind was strong and increasing all the time the "Zephyr" was filling, shelter being afforded by an adjacent building and a high barricade of boards, so that it was enclosed on three sides facing the shifting gusts of wind, notwithstanding which, with nearly a ton of sand ballast attached, it could hardly be kept at its moorings.

When all was ready it mounted with a hurtling swoop into the air and was caught by the blast just about as a mail bag is snatched from its support by the swiftly passing express car. As stated in the *Journal*, "In two minutes after it left the earth it had disappeared in the direction of World's End." Almost instantly after mounting the escape valve was pulled wide open and kept open, but it rose rapidly, like a sky-rocket, nearly a mile high, and then as rapidly fell. It touched ground upon land of Samuel Burr, at "Martin's Well" and on anchoring was immediately "exploded," with a report like that of a cannon. No personal injuries were sustained, and the apparatus was easily repaired by Prof. Myers for the next ascension made. This was probably the briefest "successful" ascension ever made with hydrogen gas.

CHAPTER XVI.

Re-ascension at Hamilton, Madison County, N. Y.—A meddlesome boy plagues the gas generators and is chased and caught by the contents—Mixed weather—Landing in the hop districts.

As novelty or variety in aeronautical experience is the chief feature which I have sought to present to the reader, I will mention next an incident or accident which occurred on the week following the ascensions at Hingham.

The interest excited by my previous ascension at Hamilton, N. Y., July 4, 1881, had made many of the citizens anxious for balloon attractions at their agricultural fair, and two ascensions were therefore engaged. Reference has been previously made to the process of gas making practiced by Prof. Myers wherever coal gas could not be obtained for inflation. In all these operations great care was taken to prevent any possible damage resulting, and all contracts specified as a necessary condition that complete protection from intrusion should be ensured him. On this occasion, however, the ubiquitous small boy, full of meddlesome curiosity, managed to elude the vigilance of the guards, and, entering the enclosure while the balloon was inflating, almost put a stop to that and himself as

well. A convenient plug projecting from a generator tempted him to step up onto it for better observation. Standing unsteadily on this plug—used to discharge the apparatus after each ascension, it finally gave way under his weight and was forced out, precipitating with some force the charge of chemicals in a stream over his lower limbs and inflicting burns which would have been quite serious but for the early application of the iced lime water used in the gas purifier. During years of experience this was the first accident occurring, but an expert mischief maker discovered the waiting opportunity in half a minute! As soon as the boy was removed Prof. Myers hastened to stop the flow of boiling hot vitriol by replugging the tank, a difficult proceeding under the circumstances, and one requiring considerable nerve to voluntarily undertake with full knowledge of the risks involved. With a hatchet in one hand and a plug in the other he made two ineffectual attempts to insert the plug and drive it in against the pressure at the same moment, but the spurt- ing of the corrosive fluid made the task too painful for continuance and he desisted just long enough to don a pair of heavy working gloves which insured less risk and enabled him to succeed in closing the escape without any real personal injury, as the immersion of his hands in the iced lime water before and after each attempt effectually neutralized the burning action of the vitriol. The delay in inflation was brief, and with the supplies of acid and water immediately added, soon

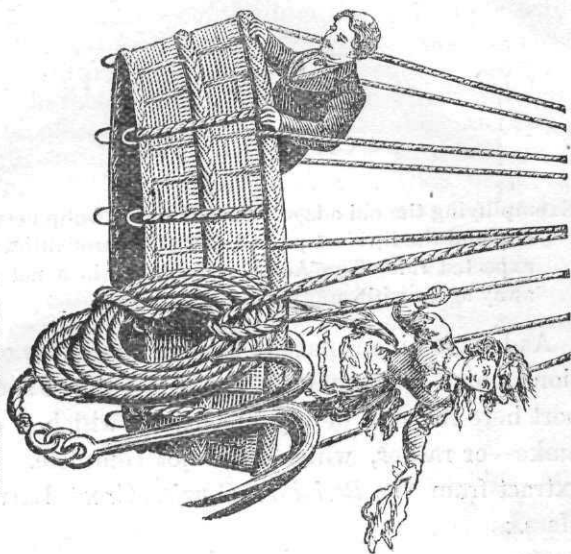
proceeded briskly, the ascension occurring about 4 p. m. without difficulty or noteworthy incident, the Zephyr rising perpendicularly, floating northward several miles and landing easily.

Next day presented a diversity of weather, all kinds being offered, but no choice allowed. At the beginning of the inflation the wind blew so hard that a barricade of boards had to be erected to the southward. Then the wind shifted suddenly and blew from the north, bringing rain with it, driving the crowds of spectators into the sheltering buildings and filling them to overflowing. Finally the wind ceased, and the rain subsided into a melancholy drizzle, in spite of which a dense crowd surrounded the balloon enclosure and closely watched all operations—I think the spectators' interest in an ascension was never more flatteringly manifested than on this depressing occasion. Just before the ascension the rain entirely ceased, at which I was particularly glad, the prospect of a ride under a waterspout not being a delightful anticipation, as every drop of rain falling on a balloon adheres to its surface and follows closely down the curves till "focused" at the neck and precipitated downward with all the force of a *douche*. This turned out to be a dry ride, however, and withal quite a pleasant one, the balloon first rising vertically some 1,500 feet and then continuing on an inclined plane upward, and over the pleasant village of Hamilton—whose streets, windows and roofs revealed crowds of spectators viewing the flight of the

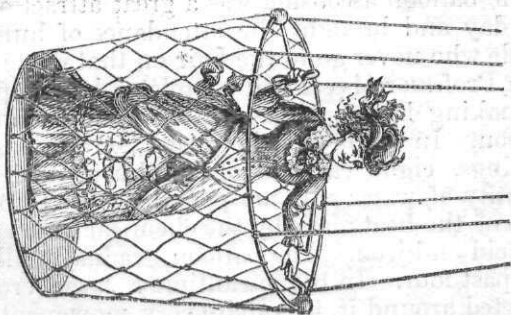
Zephyr with much apparent gratification and enthusiasm—the balloon continuing in sight some twenty minutes before it mingled with the obscuring pennons of trailing mist and was lost in the distance. This effect of cloud formation was different from anything I had before witnessed, the air being apparently so saturated with moisture that faint shadowy, lace-like veils were continually forming and disappearing about me like ghostly creations, instead of accumulating substance by accretion of smaller cloudlets as usual, so that the effect was very mysterious—the forms growing gradually out of the air and again dissipating into nothingness.

The village of Hubbardsville was now nearing me and I prepared for a landing, which was safely accomplished after considerable delay in circling about like a gigantic bird seeking a good roosting place. Time after time I came down nearly to the ground, and then, dissatisfied, arose again when proximity to trees, houses, streams and threatening hop yards frightened me. Madison county is one of the chief hop-raising districts in the State, and “hop yards” or extensive tracts of land devoted to the culture of hops abounded, every one of which was studded with slender poles some twenty feet high, and deceptively appearing like stubble or cleared fields when some distance above them, as I could see nothing except the end sections of the poles, which, on closer approach, threatened impalement like an army standing with fixed bayonets. Af-

ter hopping around uneasily here and there I finally swung close to the depot building, whose shelter afforded a safe harbor, and made a landing without danger.



THE ORDINARY "Q2R" OR BALLOON BASKET,
WEIGHT 37 POUNDS.



THE AERIAL "BASKET,"
WEIGHT, WITH METAL CONCENTRATING
RING ABOVE, (NOT SHOWN,) 7 POUNDS.

CHAPTER XVII.

Exemplifying the old adage "There's many a slip between the cup and the lip!"—Ups and downs of aeronautics—An unexpected ride—The Aerial is captured in a net and flies away again with another rider.

As I have given place to so many accounts of ascensions which I did make, it is but fair that I should report here the one of my ascensions which I did not make—or rather, which I did not complete. Let me extract from the *Berkshire Courier*, Great Barrington, Mass. :

"The most successful fair of the Housatonic Agricultural Society was held last week. The first day saw a greater number of persons on the grounds than ever before."

The balloon ascension was a great attraction on the first day and brought the attendance of hundreds of people who never go to the Fair on that day. Toward noon Professor Myers had completed his preparations for making hydrogen gas with which to inflate the balloon. In the process he used 1,200 pounds of iron shavings, eight carboys of sulphuric acid, a large quantity of water and 500 pounds of ice to overcome some of the heat made by the chemical action between the acid and iron. The balloon gradually filled until half past four. In the meantime a large crowd had collected around it, to watch every movement. Mme. Carlotta was present, carefully inspected the balloon,

watched the wind and warned the boys to keep away from the hogsheads containing the sulphuric acid. She is a strong healthy lady, though not at all masculine, with features betokening great courage and decision of character, and, in the opinion of several marshals and officers, expressing considerable attractiveness. She made her first ascension in a balloon at Little Falls, N. Y., and since that time has been "up in a balloon" eighty-seven times in various parts of the United States and Canada. The ascensions have usually been free from remarkable incidents, but some of the descents have been dangerous adventures and narrow escapes from death. The balloon has several times descended from the upper air into a forest where the branches of trees came nearly being the death of the plucky aeronaut.

As the time for the ascension approached the balloon was surrounded by a dense crowd of people and teams. The balloon had been swelled by the gas to large proportions and the breeze that prevailed from the east might have interrupted the proceedings had it not been for a high board fence, that had been temporarily erected to keep off the wind. The balloon was made of oiled cotton surrounded by a netting that was attached to the car beneath. In the upper part of the balloon was a valve opening downward, to which was attached a small rope, the other end of which was tied to the car so as to be within reach of its occupant. The car was about three feet deep, with sides of netting and a board bottom, two and a half feet wide.

The people who were in the balconies of the main building, were warned that the east wind would sweep the balloon to the west and consequently out of their sight, and most of them left the balconies and came down to the ground. The owners of teams were cau-

tioned to attend to their horses in case they should become frightened by the passage of the balloon over them, though Professor Myers said that he never knew horses to be scared by its going up.

From the remarks of some of the bystanders it was apparent that little was known by them about a balloon. A lady from Sandisfield said she had no idea a balloon was so large. She said, "I thought it was about as large as my old churn." Another lady from a neighboring town asked a friend where "the lady" was, meaning Madame Carlotta. "I guess she's inside a dressin'," was the reply,—that is, inside of the balloon where the gas was.

About 4:20 the people were becoming so impatient to see the balloon go up that Professor Myers disconnected the pipe of oiled cotton cloth, that conveyed the gas to the balloon and prepared to send it up. Though it was not quite full of gas, it was thought to contain enough to elevate it. A dozen men surrounded the balloon and, holding to the netting, gently let it rise, after the bags of sand had been detached, until it was high enough to just let the top of the car rest on the ground. Madame Carlotta stepped inside, dressed in a suit of very warm flannels and wearing a straw hat of sailor's style. She usually carries from thirty to fifty pounds of ballast, but in this case, the quantity of gas being less than usual, she had but twenty pounds. Field glasses and a tin horn with which to attract the attention of the people over which the balloon would be likely to pass when near the ground on the descent, were fastened to the car. Everything being ready the men let go the car and the balloon shot up far enough to take the car probably fifty feet up from the ground. At that instant a gust of wind came against the balloon and had the effect of causing it to descend to the ground, at the same time driving it to the west. Mme.

Carlotta quickly, yet with great coolness, seized one of the two bags of sand that she carried for ballast, and, holding it over the side of the car, inverted, let the sand run out. The balloon continued to descend and Professor Myers, running under the balloon, called to her to throw out all the ballast, which she did by heaving the whole bag at one throw. But the balloon continued to come down and soon lodged in a netting used by a showman where several men grabbed it and held it down. One of the men in his haste and ignorance of its use, seized the valve rope and let some of the gas escape before Madame Carlotta could stop him. When he was prevailed upon to let it go enough gas had been liberated to make it impossible for the remaining gas to carry up the balloon and Madame Carlotta with it. Professor Myers had arrived by this time, a man weighing a few pounds less than Madame Carlotta. He perceived at once that there was no time to put any more gas in the balloon and that there would be a failure to perform his contract, as well as a great disappointment to the people at the Fair, unless a person lighter than she would venture to go up with the balloon. It was the thought of a moment that made this apparent to him, and with the resolution of a moment, he took Madame Carlotta's place in the car, the men released it and it rapidly rose to a great height. Professor Myers had no time to take off his overalls nor to get his coat and he went into a cold atmosphere warm from work and rather lightly clothed. The balloon soon attained an elevation of two miles and a quarter, at which it was, apparently, a small black ball against the clouds and sky. It drifted to the west and seemed to be hovering over the setting sun until they both disappeared about the same time. When last seen the balloon was still at a great elevation and was probably above the country near Hillsdale, N. Y. Madame Carlotta, as well as the crowd of

people, watched the balloon as long as it remained in sight. At first she was perceptibly annoyed that the carelessness of the man who seized the valve rope should prevent her from making her aeronautic voyage, but the expression of her face soon changed to one of concern for the safety of the Professor who had never before been up in this balloon. Notwithstanding his unbounded pluck and self-possession in so suddenly going up with the balloon, she was somewhat worried about him, because the balloon was a difficult one to manage by one not accustomed to it and there was a possibility that he would let the gas escape too rapidly when he wanted to come down so that the parachute under the balloon would fill with air to such an extent that the balloon would have a violent oscillatory motion. This balloon, the name of which is "Aerial," has made sixty-nine ascensions, all of which, we think, were under the control of Madame Carlotta, so that she understands it as well as if it were a part of herself.

Professor Myers and his balloon drifted to the west for nearly eighteen miles, at the last end of the journey descending to the earth by allowing the gas to escape. Some horses driven by a farmer were the first of animate beings to discover his approach and their alarm led the farmer to look up and also to see him. The balloon came to the ground about three miles west of Craryville, New York, and dragged along over the fields for about three hundred yards, when it was brought to a stop by the help of some men cutting corn, only a few rods from Copake Lake on the farm of Robert Simmons. The balloon left the earth on the Fair Grounds at 4:30 p. m., and landed near Craryville just one hour later. The Professor and his balloon were brought to Great Barrington in a wagon by John Luke, and arrived at midnight.

It was regretted, especially by a few gentlemen who

had the pleasure of conversing with Madame Carlotta, that the state of affairs was such that she was unable to make the ascent in the balloon. Her courage and coolness were so evident, however, that it was not necessary that she should make an ascension to prove them. She has made eighty seven ascensions in balloons and to-day makes the eighty-eighth at Camden, Oneida county, N. Y. There is a general feeling of satisfaction that Professor Myers has performed his contract acceptably. It takes but a very little conversation with him and with Madame Carlotta, to perceive that they are not only not tricksters, but they may be depended upon to act honorably in all their undertakings.



THE "ZEPHYR" BALLOON.

Weight, forty pounds.

CHAPTER XVIII.

Ascension at Camden, N. Y.—Dodging about for a landing place—How a balloon is unharnessed after a voyage—An ovation at the Taberg Fair.

The ascension at Camden, referred to in the last chapter, occurred as noted. From several extended newspaper reports of the same I select a portion of the briefest:

THE BALLOON ASCENSION.

Probably the greatest attraction for the large attendance was the advertised balloon ascension. It was the event of the day, and that for which a large proportion of the crowd had especially come, and for which all anxiously awaited. Those present were amply repaid by witnessing as fine an ascension as it is possible to imagine.

The "Zephyr," which Prof. Myers informed our reporter is the lightest balloon with which anyone ever made an ascension, is made of silk, and weighs but forty pounds. At half past three it was well filled, and soon after, everything being in readiness, Madame Carlotta, who had been on the grounds all day, threw off her ulster and appeared in a neat flannel suit and jaunty hat, and stepped into the basket, which consisted of a thin board platform, surrounded by a netting of hammock twine, with apparently no more concern than most ladies would exhibit on entering a carriage for a drive. Many stout hands held the balloon to earth until everything was arranged, when it slowly

rose over the heads of the applauding crowd who shouted and waved hats and handkerchiefs, as the fair voyager floated away. At first the balloon went to the northeast, but on striking an upper current was borne to the southeast, and gradually faded from sight. The writer has witnessed seven or eight ascensions, and never saw one more perfect in every respect. It couldn't have been finer. That is all we need to say. Finding she was being borne toward the lake, the valve cord was pulled and a safe landing made about two miles from Taberg village. Nathan Metcalf who was attending the fair at Taberg, saw her pass the grounds and followed with horse and carriage. After assisting her to pack the balloon, he started to bring her to Camden, but insisted first on taking her to the Taberg Fair grounds, where the last day's exhibition was being held. The crowd wanted to take the lady and balloon on their shoulders. The wildest enthusiasm prevailed. In response to calls Mlle. Carlotta stood up in the carriage and made a neat little speech, saying that if she had known of their fair in time she would have landed in their midst. The band played for her and the crowd cheered lustily. Mr. Metcalf started with her for Camden and met J. A. Lambie, who had been sent to meet her and who brought her back to Camden, and both she and Prof. Myers left on the 8:27 train for Connecticut. The ascension was all that could be desired and gave the best of satisfaction.

As the balloon arose with me on this occasion I discovered, as I had frequently on previous ascensions elsewhere, that I had been wholly misinformed as to the character of the country over which I should sail, and that instead of its being unsuitable for safe landing it presented numerous satisfactory localities, which greatly pleased me, as I was anxious to get down in

time to connect with a train which would enable me to easily reach Stafford Springs, Conn., where I was due for an ascension at the Tolland County Fair the next day but one. The approach of Oneida Lake almost tempted me to cross it so as to reach the N. Y. Central R. R. beyond, but the unreliable wind dissuaded me and I concluded to drop to the lower current which would return me to the Rome and Watertown R. R., whose nearest depot was at Taberg. Just beyond Taberg an inviting green meadow appeared, and on this I aimed to alight, and then gave little attention to anything else. My course of descent, though literally an "air line," was very different from the popular conception of that term, as it became a succession of gigantic zigzags caused by the progressive motion of the air drifting the balloon, combined with the rising and falling occasioned by alternately dispensing gas and ballast to enable me to swerve sufficiently to one side of the wind's course to reach my mark, and avoid collision with intervening objects as well; thus I avoided a piece of woods, next undulated over an ugly skeleton of a tree, and, on settling down again, found myself confronted by a line of smaller trees over which I jumped without touching ground. At last I leaped a fence bounding the meadow, into which, sheltered by the trees, I finally settled as lightly as a butterfly, the pressure on the ground being so slight that the least spring upward in my basket would precipitate me into the air, only to alight again on the very same

spot, the faint ground breeze having now entirely ceased and the equilibrium being so nicely adjusted that I weighed little or nothing.

Standing still in the basket to hold down my bouyant gas bubble, I rapidly discharged gas from the valve until the diminished bulb above me would barely support its collapsed and pendant sides, vertically erected in folds like a fluted column inverted, the remaining gas being compressed by external air into a little knob standing away up above, but almost ready to tumble over just as assistance arrived. It was now pulled down by hauling on the netting till the valve could be held in the hand, when, the netting cords being next detached from the concentrating ring supporting the basket, the balloon inverted itself with its neck in the air, the gas sustaining it as it rushed upward from the wide open throat, while the netting tumbled off in a bewildering mystery of tangling cords. The emptied balloon was next pulled by the valve to one side till it extended in lengthened folds on the grass. Its collapsed sides were pushed together so that the whole began to look like the shriveled skin of an enormous serpent with a gaping valve for a mouth. Then, commencing with this head, or valve, it was rolled upon itself into a ball or cocoon half as large as a barrel, and finally tied up like a handkerchief bundle by four corners of a sheet carried for the purpose. The tumbled balloon netting was next seized by its center, where it had been attached around

the valve, when, upon pulling it along the grass, all the lines and ropes began to converge behind in trailing lines till the whole, "combed out" by the grass, looked like an untwisted rope, and this became a compact cable of twine by twisting at one end, which was then tied to the other end of the cable to prevent untwisting and snarling by any possibility. Then balloon, net, anchor, ropes and bags and other matters were all placed together upon the platform of the collapsed netting basket for conveyance to the carriage in waiting. The manner of attending to a balloon upon descent is thus briefly described here as a feature of possible interest to any one not familiar with it, the system adopted never having appeared in print before, I believe.

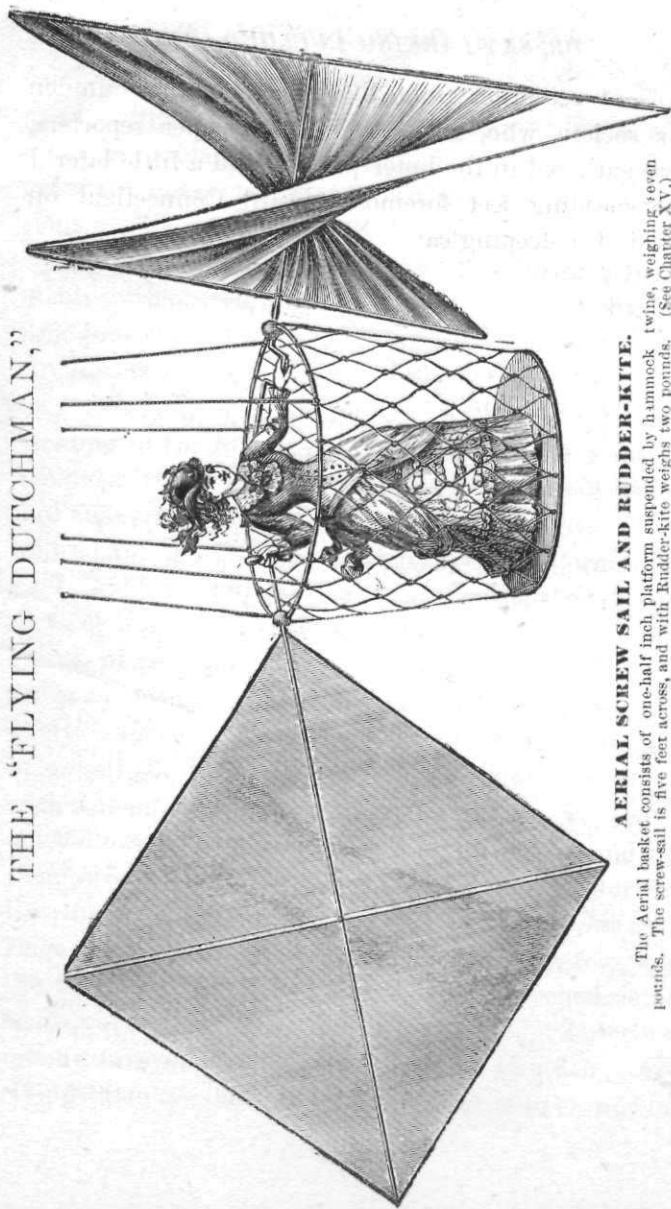
The carriage in waiting for me had come from the Taberg Fair Grounds, and now returned that way, accompanied by quite a number of people. The owner, and builder of the carriage, which was a fine new one, on its first turn out, seemed flattered to have charge of the balloon and aeronaut, and wished to drive into the Fair Grounds, but finally acceded to my wishes to return quickly. While passing the gates, however, a crowd of people poured out and closely surrounded the carriage and insisted on our driving inside. Upon my declining they began unhitching the horses, intending to draw the carriage themselves, so at last, being captured, we chose to drive rather than be dragged within. Inside, the carriage immediately be-

came the center of an immense crowd, quite as interested, enthusiastic and delighted to receive me as any other assemblage had ever been apparently glad to get rid of me on the occasions of my previous ascensions.

Full of hospitable intentions all sorts of refreshments were offered me, with invitations to alight, but time pressed, and the only thing I could do under the circumstances was to gratify their curiosity for a better view of me by standing up in the carriage and yielding to their desires for a brief speech, or rather conversation, as a great many questions were asked and answered. These inquiries seemed natural to me and I have at all times willingly given information, as I find so many people's views at variance with facts, or imbued with ideas derived from the wild narratives of aeronauts who have sought to increase interest by exaggerating the reputed wonders of the air. Pretty soon some sympathizing friend of my audience or myself got the brass band to mediate between us with a tune or two, and after this serenade we drove out, followed by the good wishes of the crowd, and by themselves as well, as the fair was closing. After delivering some lady passengers at their homes our carriage started for Camden, but crossing the route of the band the members surrounded the vehicle and again honored us with musical attention. Later we met a conveyance sent after me from Camden. Arriving there an hour was devoted to supper and a

pleasant reception from the officers of the Camden fair society who, with several newspaper reporters, were gathered in the hotel parlors, and a little later I was speeding feet foremost toward Connecticut on board of a sleeping car.

THE "FLYING DUTCHMAN,"



AERIAL SCREW SAIL AND RUDDER-KITE.

The Aerial basket consists of one-half inch platform suspended by hammock twine, weighing seven pounds. The screw-sail is five feet across, and with Rudder-kite weighs two pounds. (See Chapter XV.)

CHAPTER XIX.

Ascension at Stafford Springs, Conn.—Lost in the Clouds—
Tumult of the vapors—A dizzy ride—Land at Last.

From the Tolland County *Press* :

In attendance, in good management, and in general satisfaction given to visitors, the fair of the society last Thursday and Friday, again takes rank with the best in New England. The threatening skies of the morning of Friday must have told heavily on the attendance, but notwithstanding the total number of visitors during the two days was well toward ten thousand, exceeding 2,000 on the first day, and 7,000 on the second.

The balloon was filled upon the grounds with gas manufactured from chemicals, iron filings, and oil of vitriol being leading compounds, a curious crowd continually surrounding the enclosure where Prof. Myers and Mme. Carlotta were superintending the preparation of the air ship. At three o'clock on Friday announcement was made from the judge's stand that the balloon was about to rise, and immediately a dense crowd of people surrounded the spot, and all eyes were directed to it. Soon the "Zephyr" rose above the ground; the fair voyager standing erect in her little basket, waving her handkerchief in parting greeting to her terrestrial friends. It was a beautiful sight as the balloon went up, up, until the lady became but a speck against the sky, the breathless crowd, all moved by one thought, given expression here and there, "What if she should fall?" The clouds hung low, and

those who watched saw a most beautiful sight as the balloon passed through a rift and was seen no more from the ground, though word came later by telephone that a safe landing had been made near Hydeville. The course was rapid to the northward, a distance of two or three miles, rising through the mist, till about one hundred feet above the lower strata of clouds, and at two miles elevation—another layer of clouds being half a mile higher. During the rise the balloon spun rapidly through the clouds, which were in constant turmoil from diverse currents of wind, the upper surface of the cloud bank shifting with vaporous masses rolling and tumbling like the surface of an immense cauldron. Only at intervals was the earth below visible, and on one of these occasions Carlotta found herself drifting backward across the fair grounds in a southerly direction. Continuing this course she reached a point some four miles south of the fair grounds, when she slightly descended, with the hope of retracing her course and landing near the fair. The clouds, however, so obscured the view that not only was the balloon and suspending netting invisible to the aeronaut, but no clue was afforded as to her whereabouts, so that when she finally saw the earth, after a sojourn of forty-five minutes in the clouds, Hydeville was immediately beneath her, and after several brief rises and falls to escape dangerous obstacles she managed to land safely, with some difficulty from the wind, near the factory of the Phoenix woolen mills. She describes it as, in some respects, one of her most unpleasant experiences in ballooning, being kept quite dizzy by the rapid spinning and plunging of her balloon, and by the sight, when above the lower strata of clouds, of the tumbling and rolling bank of vapor beneath her. The whole spectacle was a great novelty to most of the visitors, and heartily enjoyed as such. This was Mme. Carlotta's 89th ascent, and her next is to-day at Little

Falls, N. Y., where on July 4, 1880, she made her first ascension.

While the balloon was filling previous to this ascent I became quite solicitous in my mind as to the prospects of a safe landing without going a considerable distance, the country around being hill and forest in the direction the apparent wind would carry the balloon, any possibly diverse currents above being wholly obscured by the low-lying clouds and vapor. According to all conjecture or information, Springfield, Mass., was the nearest locality affording any chance of a safe descent. Prof. Myers had been out riding among the hills during the morning and had especially commented on the unfavorable opportunities for landing a balloon, only one reasonably good place having been observed by him, near Hydeville, and described to me as to appearance and surroundings. Usually I preferred landing not many miles out of sight of the place of my ascent, as, on account of the frequency of my ascensions, I had no romantic motive for continuing an ordinary flight, and besides I disliked the tedium of the less pleasant return journey, often at night. I also enjoyed the exercise of skill required in making a successful landing with the fewer chances afforded in the smaller distance traveled—a ride of five or ten miles obviously offering fewer places of refuge in a given line with the current than might be found in going twice the distance—indeed, I had for some time been of the opinion that the frequently

long journeys of aeronauts, especially of inexperienced voyagers, were due to a constant dislike to encounter the perils of landing, which resulted in deferring them as long as possible.

When the Zephyr arose I had hardly more than time to take a close survey of the surrounding country as I hastened toward Springfield before nature and art together conspired to shut out sight of earth with cloud curtains which seemed trembling as with the angry touch of some mighty hand hurriedly intent on concealment. Usually the clouds into which or through which one passes, continue with the balloon in a companionable sort of way, being fellow travelers journeying with the wind, but on this occasion the clouds seemed fairly *alive* with movements of their own. At first they vibrated, shivered or undulated—as if thrilled by some emotion strong enough to cause shudder after shudder to pervade them—a silent and nameless horror filling the air. Higher up the vibrant masses gathered into shapeless, uncouth, changeful forms, which rolled, tumbled or swam around me with dizzy motions, as if living things within them were madly disporting themselves in the playground of the sky, an aerial Niagara whose tossing, foaming rapids made me feel as if devoid of hearing as I watched their noiseless clashing. These sportive cloud behemoths were so colossal, their pranks so erratic and complex that I began to be afraid of them, just as in ocean depths one might fear some

playfully disposed leviathan whose sportive tail might in a frolic suddenly slap an armored diver out of existence. My position seemed not less precarious.

These were not real isolated clouds surrounding me; they were accumulations of mist, more dense than the medium in which they disported themselves, yet constantly changing form and location as if affording concealment to some active power within the masses, and, indeed, though I was tolerably familiar with atmospheric phenomena and the causes which influence them, I could scarcely satisfy myself with an intelligent and competent explanation of the developments about me.

Soon I passed through a clearer space above, and again through a whirling, boiling layer of cloud whose motions seemed to bear a curious relation to the strata below, inasmuch as the opposing surfaces of each seemed influenced by corresponding agitations, approaching and receding uniformly. As the entire upper layer had a progressive motion nearly opposite to the lower layer it seemed like a stream or sea of cloud, broad beyond extent of vision, constantly flowing onward past some rough bed whose invisible boulders pitched and tossed the flowing sea into vapory foam or spray, marking the exact location of each powerful disturber. Floating now above the upper layer I could frequently look down through clear spaces at the turbulent underlying masses, and such glances invariably made

me feel half sea sick, for the heaving surfaces flew dizzily past each other with the doubled speed of meeting and passing railroad trains, and with all the fleeting indistinctness of earth as when seen gliding under one while peering down between the adjacent platforms of rail cars in rapid motion. In conjunction with all this movement of surroundings the balloon itself was spinning around, sometimes one way and sometimes another, instead of slowly revolving in one direction while rising and with reversed motion in falling, as is customary; but as the barometer at times gave evidence of irregular and alternate rise and fall, though I was conscious of no such motion, I conclude that these spinnings and some of the heaving appearances about me, as well as the accompanying unpleasantness, were due in part to my own irregular movements in space. I have sometimes thought that my balloon itself served at that time as a transporter and adjuster of unequal charges of static electricity on the opposing surfaces of cloud mist, just as the little pith ball fetches and carries between the oppositely charged disks of experimental apparatus, and that much if not all of the disturbance observed was due to electricity evolved during cloud manufacturing. Looking back on my experience, after an interval of several months I realize that there was no real causes for alarm, but at the time the scenes and surroundings were so suggestive of mysterious and fatal dangers that the fearsomeness of the influences impressed my memory so strongly

that after I got asleep that night, and for several successive nights, I had repeated visions of it all, so vivid that I cried aloud and awoke in a tremble of alarm and perspiring as from nightmare.

As I continued above the two cloud layers I had at rare intervals clear views of the earth when apertures or spaces in the two layers coincided, and these views possessed a peculiar aerial perspective effect, of far, middle, and near distances, which I had never observed before, the ordinary impressions of distance downward being derived wholly from diminutiveness of familiar objects seen as mere flat surfaces, and not by converging or diminishing lines as with terrestrial perspective. As I drifted across one of these cloud chasms I caught a brief glimpse of the fair grounds from which I had arisen, and thus, as by a swift flash of thought, realized that instead of approaching Springfield I was really retracing my course. This brief view was like a transient gleam of sunlight on the sea, enabling the storm tossed mariner to "take an observation" and get his reckoning, and it was the first hint that I had received as to my whereabouts, except the barometrical fact that I was two miles high. Coming down lower my next observation showed me to be about four miles southward of the fair grounds, and now, roughly estimating my speed and probable course, I essayed to return by the reverse lower current, in the hope of landing near the village of Stafford. My calculations as to speed and direction were

so far wrong, however, that when I concluded to drop through the obscuring clouds I found myself some four miles to the northeastward of Stafford, and approaching a landing place which in a flash of memory I recognized as the very spot described by Prof. Myers that morning as the only practicable locality near. My flexible basket or suspended platform served excellently here in diverting my course, as by inclining it while falling and again in rising I managed to get fairly over the place, and a few zigzags to avoid obstacles enabled me to reach the ground partly sheltered from the wind by the factory buildings of Hydesville. Here the balloon dragged its anchor perhaps a dozen feet before subdued through loss of gas. Some ladies were my first assistants here, though they were considerably frightened, not at the balloon itself, but at the prospect of being carried off by its struggling efforts to rise if they should venture to yield to my earnest solicitations to take hold of the basket and keep it from dragging further—one of the ladies nearly fainting at the bare idea of going up in it by accident.

The most interested spectator was a little boy whose indulgent mother had promised him the moon "if it ever came down." He was greatly excited at the immediate prospect of getting that luminary for a plaything as the balloon came in sight and rapidly grew larger and larger while nearing the ground. His disappointment was excessive when he found that some one else in the person of the aeronaut had got posses-

sion of it before him and was doing her best to "hold" the property. He wanted to know, very seriously, if I should "want to keep it for myself!"



CHAPTER XX.

Reascension at Little Falls, N. Y.—Close of the season of 1882
—Plunging skyward to escape collision with surrounding
wind barriers—A pleasant ride, ending in a tree top.

My last ascension during the season of 1882 was made at Little Falls, where, three years ago, I made my aeronautic debut. As on the first occasion, I here carried with me several Homing Antwerp pigeons, descendants of those which had accompanied me before, and I dispensed with the other flying appendages which I had since learned so well to use.

The day, Thursday, October 12, selected for a grand firemen's tournament, hose and bicycle race, opened gloomy and windy, but notwithstanding the depressing influence of weather indications an immense crowd gradually filled the streets so as to almost completely prevent movement except with the surging of the masses.

Local gas works existed convenient for filling the balloon, but, as on the previous occasion, it was decided by preference that Prof. Myers should generate hydrogen, and use the Zephyr.

Little Falls is mainly built upon a side hill which descends southward till it abruptly faces a precipitous wall of rock so high that some houses in its shadow

never feel the sun's rays except when it rises and sets to the northward of them. Down over this precipice the south-east wind tumbled, falling on the slope below, up which it then hurried swifter and swifter as it neared the summit occupied by the principal streets, till, reaching the locality of the balloon in a side street which terminated abruptly in a steeper hill side, it wedged its compressed gusts into one swift current of air flowing between high buildings till it escaped fiercely over the higher upland. Filling a balloon in the track of this aerial flume was like erecting a building in the sluice-way of a mill; but finally the current was dammed with a wall of boards stretching across the street, and behind this barricade, walled in by the stores on either side and the steep hillside in the rear, the Zephyr filled steadily, and as quietly as if at the bottom of a well. It was very well for filling, but at the close of the inflation it became a difficult problem how to get the Zephyr out of this convenient harbor. The hill could not be taken down, neither was it feasible to move the buildings on either side, while the balloon would certainly not advance against the wind in the direction of the barricade. It could only fly upward, and it would have to mount so swiftly that the blasts across the roofs and the barricade could not crush me in my hammock basket against any of the surroundings when the greater bulk of the balloon above me should be first swept away. It was necessary then to so ballast the Zephyr with sand, or so

lighten it with the lack of it, that it would certainly raise me directly upward with its first impetus clear of all obstructions.

When this matter was suitably arranged and the balloon basket pulling hard on the hands which held it down, Prof Myers waited for a momentary lull or a backward sway of the balloon toward the wind, and then, at the critical moment, tossed it skyward. An elevation of fully two hundred feet was attained almost instantly, before the wind sufficiently recovered from its surprise to deal the balloon a sudden blow which made it reel over till strongly suggestive of a capsize. Then the basket plunged after the balloon, got ahead of it, and retaliated by jerking the balloon along, and thus the basket and balloon swung backward and forward like pendulum bobs pivoted on an invisible point situated somewhere between the two. Meanwhile the upward flight of the balloon made the course a sinuous track through the air which the rapid spinning of the balloon essayed to convert into an ascending spiral, so that I finally cork-screwed my way into upper space, facing all points of the compass and all quarters of the heavens in turn, yet as safe from spilling as a glass of water swung on a wizard's hoop.

As soon as I could I let out gas to check the ascent, and by swinging my body in opposition to the oscillations succeeded in subduing the rather dizzy movements of my air ship. Then I released four of the pigeons. For the first time in my experience they act-

ed thoroughly demoralized and flew wildly, while two others which had been let out just an instant before my ascent attained their bearings at once and sped homeward. The four just released soon recovered their composure in the free air, and, massing their scattered numbers, whirled in curved flight toward their home at Mohawk. The two pigeons still remaining with me in their separate basket of netting did not appear disconcerted, as they were old warriors. I say old warriors advisedly, for the homing Antwerp pigeons are pugnacious birds, and not by any means "harmless as doves" referred to in the Scriptures. Though not as dangerous as game cocks they often seem as combatively inclined, and it is no unusual sight to see some cock of the loft wait on an intruding stranger, escort him politely to the edge of a roof holding him by the back of the neck, and then, "striking from the shoulder," like a well trained pugilist, knock him clear into resounding space with a blow which I know from experience is hard enough to lame one's wrist.

My first feeling after getting safely into the air was one of great relief—as indeed is always the case with me; for, contrary to the general belief, I regard the risks of ascent as ordinarily greater than those of descent. In rising the safest place is not always selected, while great choice of locality for landing is permitted if one waits long enough in making selection. So I was safe, serenely becalmed in the air. All about me were fleecy clouds, with many fragments, light and

feathery, like wisps of down from some gigantic pinions—the wings of the wind, perhaps. At 2,500 feet I passed through them and the passage viewed from below was pronounced one of the most beautiful spectacles ever witnessed, as the balloon parted the folds of lace like vapor and gradually disappeared, only to show itself again almost immediately after, as it mounted above the obscuring layer of clouds and reappeared as if by magic in the clearer space above. Below the air had been cool; here it was “warm as a feather-bed,” with a coverlet of downy clouds above me, and below me billowy pillows, gleaming brilliantly in the clear hot sunshine. Through the overlying coverlet I passed, and with it began reversing my course, drifting now eastward again over Little Falls, as I had previously contemplated, and to the great delight of those who witnessed the return flight from below.

A mile above the air was crisp and cool, even chilly but for the hot sun which warmed me on all sides in turn as the balloon slowly revolved—treating me to successive views of a most magnificent cloud-scape below me.

At a height of two and a-half miles the balloon traveled till about ten miles beyond Little Falls, when I lowered it into the under current which returned me to within five miles of my place of ascent but gradually to the northward, so that, without means of guidance I could not reach it. Consequently I prepared to make a landing, for although the locality was certain-

ly not favorable it was rapidly becoming worse. The strong wind below made landing in any selected spot difficult, and I rose and fell, alternately dispensing gas and ballast, jumping over bits of woods and seeking harbor between them, till my sand was all gone. About the last thing dropped was a heavy cloak. This spread out and partly inflated itself with air in falling, considerably frightening the beholders who believed it to be the aeronaut from its resemblance to a human figure. The balloon, however, instead of flying up rapidly, as it would have done had a person fallen out, merely fluttered its folds with the slight shock of stopping in mid air, and then flew along, till just the exact spot for landing arrived, which was fortunately soon, as I was at the end of my resources for dodging about to catch another as it came along. Just as I was about to greet mother earth, before I could say "I'm glad to meet you!" a jealous cat's paw of wind scratched the balloon and flung it spitefully into a birch tree just on the corner of a spur of woods. If this tree hadn't been there everything would have been pleasant, but it was there, and from its looks I should judge that it had been there a great many years waiting for me to be born and "raised" in a balloon, so that it eventually might work its destiny by catching me that trip. It was a very affectionate tree and the embrace it gave the Zephyr completely defied any efforts I could make to release it. Providence, impersonated by Mr. John Broat, interposed, however, and set about plucking me

down like fruit from a tree—the first time, I think, that a birch yielded anything but “gads.” At my request a saw was procured to aid the “hand of Providence.” On arrival it proved a premium saw for dullness, but “grit” supplied the place of “grinding,” and with it several small trees were sawed down below me. Then a young man, Birt Shead, climbed the birch and sawed the limbs holding the balloon netting. As the balloon objected to supporting me further I considerately stepped down and out upon a convenient branch and thence descended the tree till near the ground. It was still too far to jump or to tumble so I finally compromised by swinging myself down so that I could step on to the shoulder of Mr. Broat who then assisted me to the ground very nicely. No, his wife wasn’t there! but later she very kindly conveyed me to Little Falls in her carriage, and thus ended my flights for the season of 1882.

“POSTSCRIPT.”

In closing this portion of a work which I hope to continue, it seems proper to give some general views of the subject of aerial voyaging as it now impresses me. The considerable number of ascensions made by me within a comparatively limited time, many of them in rapid succession, indicate that, under suitable conditions as regards apparatus, aerial adventuring is not necessarily and of itself especially dangerous. Certainly the chief danger lies in disturbances of the atmosphere, and this danger is only encountered when the air ship is leaving or entering port.

It is quite certain that no aquatic vessel as helpless as an ordinary balloon dares leave port under such stormy conditions of weather as an aeronaut occasionally finds on the dates of his engagements; yet the air sailor trusts himself in the fierce clutch of the Storm King and looks to such safe harbor as chance affords.

The chief needs of aerial voyagers in the past have been suitably constructed harbors, and means of reaching them—navigable balloons,—I mean by this some contrivance or arrangement whereby the course of a balloon may be diverted from the paths of the winds.

I think I may say that this last has been achieved in a degree, and that my voyages give some evidence of it.

While the power of the wind to bear burdens on various courses without expense continues in force, as it is likely to continue, it is altogether probable that human skill, and any power at its command, will continue to make use of air currents whenever occasion serves; and when the force of the wind is encountered, or opposed in the effort to move against it, no apparatus supported by gas will be of the slightest service except as a safe support to the experimental aeronaut who seeks to perfect appliances and obtain skill in their use—as has been the course pursued by myself. In my own flights there has been a constant effort to diminish weight of apparatus in order that bulk of gas might also be diminished, so that it is probable that no other person has moved through the sky in all directions with so little resistance or impediment as I have experienced, indeed I have all but felt myself free as the air itself whenever any moderate movement was attempted—the ease of movement and relative speed being about the same as that of a swimmer in moving water—and in this condition it has been my aim to learn by what appliances I could most conveniently move about, all things considered. The special elements which, united, constitute the most practicable arrangements for flight, have been tried, one by one, or one with another, in combination, and

it has been a study to find such a form of simple apparatus as would combine all the various advantageous features in one complete system no more cumbersome or weighty than any one of the single elements involved in it. The promise of this successful result is so encouraging now that I look hopefully forward to another season when it shall be permissible to make common use of it in my flights. At present I am permitted only to name it "The Sky-Lark," which, by the way, will also be the name of the balloon with which I hope to mount on my next adventurous flight.

CARLOTTA.

